













# ANNUAL REGISTER

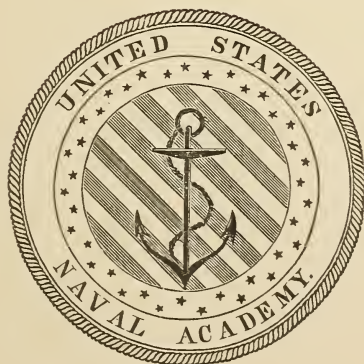
OF THE

## UNITED STATES NAVAL ACADEMY,

ANNAPOLIS, MD.

THIRTY-THIRD ACADEMIC YEAR.

1882-83.



WASHINGTON:  
GOVERNMENT PRINTING OFFICE.

1882.





Officers  
Directory

# OFFICERS' DIRECTORY.

## U. S. NAVAL ACADEMY,

Annapolis, Md., November 8, 1882.

✓	<b>Captain F. M. RAMSAY, Superintendent.</b>		
✓	Commander	N. H. Farquhar.....	No. 4. Blake Row.
✓	"	H. B. Robeson.....	" 9. "
✓	"	P. F. Harrington.....	" 6. "
✓	"	F. A. Cook.....	" 3. "
✓	"	C. D. Sigsbee.....	" 8. "
✓	Lt. Comdr	S. H. Baker.....	" 17. Buchanan Row.
✓	"	H. Elmer.....	" 26. Porter Row.
✓	"	John Schouler.....	" 25. "
✓	"	J. E. Craig.....	" 23. "
✓	"	C. M. Thomas.....	U. S. Ship "Santee."
✓	Lieutenant	Asa Walker.....	No. 20. Porter Row.
	"	C. S. Sperry.....	" 6. Maryland Avenue.
✓	"	W. T. Burwell.....	" 27. Buchanan Row.
✓	"	H. N. Manney.....	" 19. "
✓	"	H. Knox.....	" 16. Buchanan Row.
✓	"	J. P. Merrell.....	" 14. 3d floor. Goldsborough Row
✓	"	J. G. Eaton.....	" 14. 2d "
✓	"	<del>E. D. F. Heald</del> <i>Seabra</i> .....	15. 4th "
	"	E. P. Wood.....	" 12. 4th "
✓	"	W. Goodwin.....	" 15. 3d "
	"	J. F. Meigs.....	" 13. 4th "
✓	"	E. D. Taussig.....	" 14. 4th "
	"	D. Kennedy.....	" 12. 3d "
	"	C. A. Stone.....	" 13. 3d "
	"	W. P. Potter.....	" 13. 2d "
	"	J. B. Briggs.....	" 12. 2d "
	"	N. T. Houston.....	" 14. 1st "
	"	R. G. Peck.....	" 12. 1st "
	"	H. W. Schaefer.....	" 30. Hanover street.
	"	J. B. Murdock.....	" 16. Maryland Avenue.
✓	"	H. L. Green.....	" 7. "
	"	J. H. Bull.....	" 15. 1st floor. Goldsborough Row.
	Master	W. P. Clason.....	" 8. Duke of Gloucester street.
	"	T. B. Howard.....	" 7. State House Circle.
	"	F. H. Holmes.....	" 9. Stribling Row.
	"	J. F. Parker.....	" 99. King George's street.
	Ensign	A. E. Culver.....	" 8. Stribling Row.

✓	<i>Medical Inspector</i>	A. C. Rhoades.....	No. 5. Blake Row.
✓	<i>Surgeon</i>	<del>W. A. Corwin</del> <i>W. C. Selby</i> ..	15. 2d floor. Goldsborough Row.
✓	<i>P. A. Surgeon</i>	D. N. Bertolette.....	9. 3d " Stribling Row.
✓	<i>Pay Master</i>	L. G. Billings. ( <i>Commissary</i> ) ..	22. Porter Row.
✓	"	R. W. Allen. <i>Pay Officer (Storekeeper)</i>	No. 21. Porter Row.
	<i>Chief Engineer</i>	Edward Farmer.....	No. 7. Blake Row.
	<i>P. A. Engineer</i>	W. A. Windsor.....	" 18. Buchanan Row.
✓	"	J. S. Ogden.....	" 13. 1st floor. Goldsborough Row.
	"	G. B. Ransom.....	" 10. West street.
	"	A. B. Canaga.....	" 7. Church Circle.
	"	J. K. Barton.....	" 10. West street.
	"	W. M. Parks.....	" 10. West street.
	<i>Chaplain</i>	A. A. McAllister.....	" 16. Maryland Avenue.
✓	<i>Professor</i>	W. W. Hendrickson.....	" 10. Blake Row.
✓	"	J. M. Rice.....	" 2. "
	"	H. D. Todd.....	" 11. Blake Row.
	"	L. F. Prud'homme.....	" 30. Hanover street.
	"	M. Oliver.....	" 16. Maryland Avenue.
✓	"	N. M. Terry.....	" 76. Prince George's street.
✓	"	C. E. Munroe.....	" 9. 2d floor. Stribling Row.
	"	P. Montaldo.....	" 9. 1st " "
✓	"	W. W. Fay.....	" 30B. Hanover street.
	"	W. W. Johnson.....	" State House Circle.
	<i>Asst. Prof.</i>	T. Karney.....	" Maryland Avenue.
	"	A. V. S. Courcelle.....	" 7. Duke of Gloucester street.
	"	E. Dovilliers.....	" 30A. Hanover street.
	"	J. Leroux.....	" 104. King George's street.
	"	H. Dalmon.....	" 8. 3d floor. Stribling Row.
	"	C. F. Blauvelt.....	" 9. " "
	R. M. Chase. <i>Secretary</i> .....	" 28. Buchanan Row.	
	J. J. Graff. <i>Asst. Librarian</i> .....	" 29½. Hanover street.	
	A. M. Pomeroy. <i>Boatswain</i> .....	U. S. Ship "Dale."	
	R. Sommers. <i>Gunner</i> .....	No. 16. Green street.	
	G. W. Conover. <i>Carpenter</i> .....	" 67. Prince George's street.	
	A. J. Corbesier. <i>Sword Master</i> .....	" 37. Maryland Avenue.	
	J. B. Retz. <i>Asst.</i> ..	" " Conduit street (extended).	
	Geo. Heintz. " ..	" 14. Green street.	
	Matthew Strohm. <i>Boating Master</i> ....	" 21. " "	

#### MARINE GARRISON.

✓	<i>Captain</i>	R. W. Huntington.	adjoining Marine Barracks.
	<i>1st Lieut.</i>	D. Whipple,	" "
	"	Geo. T. Bates.	S. E. cor. Maryland Ave. & Hanover street.

Officer's  
Directory

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## THE UNITED STATES NAVAL ACADEMY.

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The United States Naval Academy was founded in 1845, by Hon. George Bancroft, Secretary of the Navy, in the administration of President James K. Polk. It was formally opened October 10, of that year, under the name of the Naval School, with Commander Franklin Buchanan as Superintendent. It was placed at Annapolis, Md., on the land occupied by Fort Severn, which was given up by the War Department for the purpose. The course was fixed at five years, of which the first and last only were spent at the School, the intervening three being passed at sea. This arrangement was not strictly adhered to, the exigencies of the service making it necessary, in many cases, to shorten the period of study. In January, 1846, four months after the opening of the School, the students consisted of 36 Midshipmen, of the date of 1840, who were preparing for the examination for promotion; 13 of the date of 1841, who were to remain until drafted for service at sea; and 7 Acting Midshipmen, appointed since September of the previous year. The Midshipmen of the date of 1840 were the first to be graduated, finishing their limited course in July, 1846, and they were followed in order by the subsequent dates, until the reorganization of the School, in 1851.

In September, 1849, a Board was appointed to revise the plan and regulations of the Naval School. The Board was composed of the following officers:

Commodore William B. Shubrick,  
Commander Franklin Buchanan,  
Commander Samuel F. Dupont,  
Commander George P. Upshur,  
Surgeon W. S. W. Ruschenberger,  
Professor William Chauvenet,  
Captain Henry Brewerton. U. S. A.

The plan reported by the Board was approved, and went into operation July 1, 1850.

The new organization provided for a course of seven years, the first two and last two at the School and the three intermediate years at sea. The School was placed under the supervision of the Bureau of Ordnance and Hydrography, and its name was changed to the United States Naval Academy. The corps of professors was enlarged, the course was extended, and the system of separate departments, with executive heads, was fully adopted. It was provided that a Board of Visitors should make an annual inspection of the Academy, and report upon its condition to the Secretary of the Navy. A suitable vessel was attached to the Academy as a practice-ship, and the annual practice-cruises were begun.

After the system had been in operation a year new changes were proposed, and the recommendations of the Academic Board on the subject were referred to the Board of Examiners of the year 1851, composed of the following officers:

Commodore David Conner,  
Captain Samuel L. Breese,  
Commander C. K. Stribling,  
Commander A. Bigelow,  
Commander Franklin Buchanan,  
Lieutenant Thomas T. Craven.

The change recommended by the Board of Examiners, and adopted by the Department, consisted mainly in leaving out the requirement of three years of sea-service in



the middle of the course, thus making the four years of study consecutive. The practice-cruise supplied the place of the omitted sea-service, and gave better opportunities of training. The change went into operation in November, 1851, together with other improvements recommended by the Board. The system has continued, with slight modifications, to the present time. The first class to receive the benefit of it was that which entered in 1851. Six members of this class completed the course in three years, and were graduated in June, 1854; the rest of the class followed in 1855.

In May, 1861, on the outbreak of the war, the Academy was removed to Newport, R. I. The three upper classes were detached and ordered to sea, and the remaining Acting Midshipmen were quartered in the Atlantic House and on board the frigates *Constitution* and *Santee*. In September, 1865, the Academy was moved back to Annapolis, where it has since remained.

When the Bureau of Navigation was established, July 5, 1862, the Academy was placed under its supervision; March 1, 1867, it was placed under the direct care and supervision of the Navy Department, the administrative routine and financial management being still conducted through the Bureau. On the 11th of March, 1869, all official connection with the Bureau came to an end.

The term of the academic course was changed by law, March 3, 1873, from four to six years. The change took effect with the class which entered in the following summer.

In 1866, a class of Acting Third Assistant Engineers was ordered to the Academy for instruction. The course embraced the subjects of steam engineering, mechanism, chemistry, and mechanics, and practical exercises with the steam engine and in the machine-shop. This class was graduated in June, 1868, together with two Cadet-Engineers who had entered the Academy in 1867. After an interval of four years, in October, 1871, a new class of Cadet-Engineers was admitted. This class followed a two years' course, somewhat more extended than that of the class of 1868, and was graduated in 1873. In 1872 and 1873 new classes were admitted, the first of which left the Academy in 1874 and the second in 1875. By an act of Congress approved February 24, 1874, the course of instruction for Cadet-Engineers was made four years instead of two; and the new provision was first applied to the class entering the Academy in the year 1874. This class was graduated in June 1878.

By an act of Congress approved August 5, 1882, it is provided that from that date "there shall be no appointments of Cadet-Midshipmen or Cadet-Engineers at the Naval Academy, but in lieu thereof Naval Cadets shall be appointed from each Congressional district and at large, as now provided by law for Cadet-Midshipmen, and all the undergraduates at the Naval Academy shall thereafter be designated and called "Naval Cadets;" and from those who successfully complete the six years' course, appointments shall hereafter be made as it is necessary to fill vacancies in the lower grades of the Line and Engineer Corps of the Navy and of the Marine Corps: *And provided further*, That no greater number of appointments into these grades shall be made each year than shall equal the number of vacancies which has occurred in the same grades during the preceding year; such appointments to be made from the graduates of the year at the conclusion of their six years' course, in the order of merit, as determined by the Academic Board of the Naval Academy; the assignment to the various corps to be made by the Secretary of the Navy upon the recommendation of the Academic Board. But nothing herein contained shall reduce the number of appointments from such graduates below ten in each year, nor deprive of such appointment any graduate who may complete the six years' course during the year 1882. And if there be a surplus of graduates, those who do not receive such appointment shall be given a certificate of graduation, an honorable discharge, and one year's sea-pay, as now provided by law for Cadet-Midshipmen: and so much of section 1521 of the Revised Statutes as is inconsistent herewith is hereby repealed."

"That any Cadet whose position in his class entitles him to be retained in the service may, upon his own application, be honorably discharged at the end of four years' course at the Naval Academy, with a proper certificate of graduation."

## SUPERINTENDENTS OF THE NAVAL ACADEMY SINCE ITS FOUNDATION.

### Assumed Command:

- Sept. 3, 1845.—Commander Franklin Buchanan.
- Mar. 15, 1847.—Commander George P. Upshur.
- July 1, 1850.—Commander Cornelius K. Stribling.
- Nov. 1, 1853.—Commander Louis M. Goldsborough.
- Sept. 15, 1857.—Captain George S. Blake.
- Sept. 9, 1865.—Rear-Admiral David D. Porter.
- Dec. 1, 1869.—Commodore John L. Worden.
- Sept. 22, 1874.—Rear-Admiral C. R. P. Rodgers.
- July 1, 1878.—Commodore Foxhall A. Parker.
- Aug. 2, 1879.—Rear-Admiral George B. Balch.
- June 13, 1881.—Rear-Admiral C. R. P. Rodgers.
- Nov. 14, 1881.—Captain F. M. Ramsay.



# CALENDAR FOR 1882-1883.

## SEPTEMBER.

Sun.	M.	T.	W.	T.	F.	Sat.
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

## MARCH.

Sun.	M.	T.	W.	T.	F.	Sat.
					1	2
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

## OCTOBER.

1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	...	....	....	....

## APRIL.

1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	...	....	....	....	....

## NOVEMBER.

...	...	...	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	....	....

## MAY.

...	...	1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	....	....

## DECEMBER.

...	...	...	...	...	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31	....	....	....	....	....	....

## JUNE.

...	...	...	...	...	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

## JANUARY.

....	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31	....	....	....

## SEPTEMBER.

...	...	...	...	...	...	1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	....	....	....	....	....	....

## FEBRUARY.

...	...	...	...	1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	....	....	....

## OCTOBER.

...	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31	....	....	....

OFFICERS  
ATTACHED TO THE  
UNITED STATES NAVAL ACADEMY.

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SUPERINTENDENT,  
CAPTAIN F. M. RAMSAY.

*Assistant to the Superintendent, and in charge of Buildings and Grounds*

LIEUTENANT W. T. BURWELL.

---

*Commandant of Cadets,*  
COMMANDER N. H. FARQUHAR.

*Assistants to the Commandant of Cadets,*

LIEUTENANT H. N. MANNEY,  
LIEUTENANT W. P. POTTER.  
LIEUTENANT H. L. GREEN.

---

SEAMANSHIP, NAVAL TACTICS, AND NAVAL CONSTRUCTION.

*Head of Department,*  
COMMANDER F. A. COOK.

*Assistants,*

LIEUTENANT-COMMANDER H. ELMER,  
LIEUTENANT E. DE F. HEALD,  
LIEUTENANT N. T. HOUSTON.

*Instructor in Boxing, Swimming, and Gymnastics*

MATTHEW STROHM.

---

ORDNANCE AND GUNNERY.

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COMMANDER H. B. ROBESON

*Assistants,*

LIEUTENANT J. F. MEIGS,  
LIEUTENANT D. KENNEDY,  
LIEUTENANT C. A. STONÉ,  
LIEUTENANT J. H. BULL.

*Sword-Master,*

ANTOINE J. CORBESIER.

*Assistant Sword-Masters*

JEAN B. RETZ,  
GEORGE HEINTZ.

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PASSED ASSISTANT ENGINEER W. A. WINDSOR,

PASSED ASSISTANT ENGINEER J. S. OGDEN,

PASSED ASSISTANT ENGINEER G. B. RANSOM,

PASSED ASSISTANT ENGINEER J. K. BARTON,

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LIEUTENANT J. B. MURDOCK,

PROFESSOR N. M. TERRY, A. M., PH. D.

PROFESSOR C. E. MUNROE, S. B.

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LIEUTENANT J. P. MERRELL,

LIEUTENANT H. W. SCHAEFER,

MASTER T. B. HOWARD.

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*Assistants,*

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LIEUTENANT E. D. TAUSSIG,

LIEUTENANT J. B. BRIGGS,

ENSIGN E. A. CULVER,

PROFESSOR W. W. FAY, A. M.

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*Assistants,*

PROFESSOR L. F. PRUD'HOMME, A. M.,  
 MASTER J. F. PARKER,  
 PROFESSOR PEDRO MONTALDO,  
 ASSISTANT PROFESSOR A. V. S. COURCELLE,  
 ASSISTANT PROFESSOR E. DOVILLIERS,  
 ASSISTANT PROFESSOR J. LEROUX,  
 ASSISTANT PROFESSOR H. DALMON.

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COMMANDER C. D. SIGSBEE.

*Assistants,*

PROFESSOR M. OLIVER,  
 MASTER W. P. CLASON,  
 PASSED ASSISTANT ENGINEER A. B. CANAGA,  
 ASSISTANT PROFESSOR C. F. BLAUVELT.

## OFFICERS NOT ATTACHED TO THE ACADEMIC STAFF.

LIEUTENANT-COMMANDER C. M. THOMAS, *In charge of Ships.*  
 MEDICAL INSPECTOR A. C. RHOADES, M. D.  
 SURGEON J. L. NEILSON, M. D.  
 PASSED ASSISTANT SURGEON D. N. BERTOLETTE, M. D.  
 PAYMASTER L. G. BILLINGS, *Commissary.*  
 PAYMASTER R. W. ALLEN, *Pay Officer and Storekeeper.*  
 CHAPLAIN A. A. McALISTER.  
 ASSISTANT PROFESSOR THOMAS KARNEY, A. M., *Librarian.*  
 J. J. GRAFF, *Assistant Librarian.*  
 R. M. CHASE, *Secretary.*

*Attached to the Ships.*

BOATSWAIN A. M. POMEROY.  
 GUNNER ROBERT SOMMERS.  
 CARPENTER G. W. CONOVER.

## MATES.

*Attached to the Santee, the Dale, and the Phlox.*

SAMUEL GEE.  
 JAMES HILL.  
 C. J. MURPHY.

B. G. PERRY.  
 JOSEPH ROGERS.  
 ROBERT SILVER.

W. G. SMITH.

## MARINE OFFICERS.

CAPTAIN R. W. HUNTINGTON, *Commanding Marines.*  
 FIRST LIEUTENANT D. WHIPPLE.  
 FIRST LIEUTENANT G. T. BATES.

## ACADEMIC BOARD.

CAPTAIN F. M. RAMSAY, U. S. N.  
 COMMANDER N. H. FARQUHAR, U. S. N.  
 COMMANDER H. B. ROBESON, U. S. N.  
 COMMANDER P. F. HARRINGTON, U. S. N.  
 COMMANDER F. A. COOK, U. S. N.  
 COMMANDER C. D. SIGSBEE, U. S. N.  
 PROFESSOR W. W. HENDRICKSON, U. S. N.  
 PROFESSOR J. M. RICE, U. S. N.  
 CHIEF ENGINEER E. FARMER, U. S. N.  
 LIEUTENANT-COMMANDER J. SCHOUTER, U. S. N.  
 LIEUTENANT-COMMANDER J. E. CRAIG, U. S. N.  
 PROFESSOR H. D. TODD, U. S. N.

## CADET-OFFICERS.

## CADET-LIEUTENANT-COMMANDER.

F. L. CHAPIN.

## CADET-LIEUTENANTS.

J. B. JACKSON.  
G. W. STREET.

H. GEORGE.  
J. H. BARNARD.

## CADET-MASTERS.

A. P. AGEE.  
T. S. O'LEARY.

W. J. WILSON.  
A. S. KEITH.

## CADET-ENSIGNS.

E. W. DALRYMPLE.  
T. H. GIGNILLIAT.

R. W. BARKLEY.  
R. C. ALEXANDER.

T. V. TONEY.

## CADET-PETTY-OFFICERS OF THE FIRST CLASS.

T. A. Witherspoon.  
C. T. Brady.  
R. E. Thurston.  
E. B. Weeks.

F. R. Colvin.  
R. H. Woods.  
W. S. Aldrich.  
J. M. Ellicott.

S. W. Armistead.  
G. W. Littlehales.  
C. E. Woodruff.  
W. E. Bowman.

## CADET-PETTY-OFFICERS OF THE SECOND CLASS.

F. E. Curtis.  
C. S. Williams.  
A. M. Beecher.  
T. H. Leary.

I. K. Seymour.  
C. H. Hayes.  
H. McNulta.  
W. McCreary.

C. W. Hazeltine.  
W. R. Shoemaker.  
H. P. Jones, jr.  
J. R. Harrell.

Order of general merit.*	Name.	State.	Date of admission.	Age at date of admission.	
				Years.	Months.
*1	Nixon, Lewis .....	Virginia .....	June 21, 1878	17	2
2	Wood, Spencer Shepard .....	New York .....	June 21, 1878	16	10
3	Fletcher, William Bartlett .....	Vermont .....	Sept. 11, 1877	15	8
4	Sutphen, Edson Webster .....	Nebraska .....	June 21, 1878	17	9
5	Bennett, Louis Slocum .....	New Jersey .....	Sept. 11, 1877	15	9
6	Johnston, Marbury .....	Georgia .....	Sept. 23, 1878	17	9
7	Whittelsey, William Bailey .....	New York .....	June 21, 1878	17	11
8	McWhorter, Jacob Gray .....	Georgia .....	Sept. 12, 1877	16	2
9	Doyle, James Gregory .....	Pennsylvania .....	June 21, 1877	17	1
10	Savage, Ledru Rollin .....	Illinois .....	Sept. 23, 1878	17	2
11	Jayne, Joseph Lee .....	Mississippi .....	June 21, 1878	15	1
12	McNutt, Finley Alexander .....	Indiana .....	Sept. 11, 1877	16	9
13	Duncan, William Butler .....	New York .....	Nov. 1, 1878	16	6
14	Prince, Thomas Clayton .....	Ohio .....	June 21, 1878	17	9
15	Blandin, John Joseph .....	Alabama .....	June 21, 1878	15	10
16	Howard, William Lauriston .....	Connecticut .....	Sept. 11, 1877	17	8
17	Field, Wiley Roy Mason .....	Virginia .....	June 21, 1878	15	8
18	Anderson, Edwin Alexander .....	North Carolina .....	June 21, 1878	17	11
19	Semple, Lorenzo .....	Alabama .....	Sept. 11, 1877	16	0
20	Key, Albert Lenoir .....	Tennessee .....	June 21, 1877	16	11
21	Paine, Walter Taylor .....	Ohio .....	Sept. 11, 1877	14	11
22	Horst, Henry August .....	Alabama .....	June 21, 1878	17	5
23	Martin, Clarence .....	Louisiana .....	June 21, 1878	16	3
24	Grambs, William Jacob .....	Pennsylvania .....	Sept. 11, 1877	15	5
25	Poyer, John Martin .....	At large .....	June 21, 1877	15	9
26	Kenkel, Herman Henry .....	Minnesota .....	June 21, 1878	17	5
27	Eames, Harold Hayden .....	Maine .....	June 21, 1878	14	6
28	McGiffin, Philo Norton .....	Pennsylvania .....	Sept. 11, 1877	16	9
29	Hubbard, Nathaniel Mead .....	At large .....	Sept. 11, 1877	17	6
30	Gwyn, Lawrence Langston .....	Mississippi .....	June 21, 1878	16	11
31	King, William Nephew, jr. ....	Georgia .....	June 21, 1875	17	5
32	Parker, Felton .....	Iowa .....	Nov. 6, 1876	16	0
33	Stahle, Frederick Henry .....	California .....	Sept. 11, 1877	15	4
34	Patterson, Samuel Achmuty Wainwright .....	At large .....	June 21, 1876	16	6
35	Kent, George Edward .....	New York .....	June 21, 1877	16	10
36	Fowler, Hammond .....	Virginia .....	Sept. 23, 1878	16	7

MIDSHIPMEN.

36 members.

Order of merit in—

Seamanship.	Ship-building.	Ordnance and armor.	Marine engines.	Theoretical navigation.	Practical navigation and surveying.	Electricity.	Naval architecture (elec- tive).	Public law.	French and Spanish.	Number of demerits.	Sea-service in practice- ships.	Order of general merit.
											Months. Days.	
4	4	1	1	1	1	1	1	2	11	45	6	26 1
2	2	2	16	5	10	7	3	11	12	7	6	26 2
4	1	6	4	4	8	3	.....	10	16	41	6	26 3
3	3	3	3	14	8	2	.....	24	25	61	6	26 4
28	10	10	8	9	3	13	.....	1	6	81	6	26 5
17	25	7	15	3	2	6	.....	22	23	75	6	26 6
7	14	8	10	15	16	8	.....	22	34	32	6	26 7
12	7	19	7	8	13	8	.....	33	27	71	6	26 8
6	15	16	6	11	15	17	.....	30	21	77	6	26 9
24	13	4	5	6	7	4	.....	7	8	51	6	26 10
11	10	14	28	11	6	16	.....	35	32	42	6	26 11
20	8	10	8	7	3	11	.....	4	13	62	6	26 12
1	6	5	14	23	16	24	.....	26	1	40	6	26 13
15	21	23	12	20	11	26	.....	16	2	39	6	26 14
22	25	23	13	25	20	12	.....	8	5	48	6	26 15
21	31	15	29	31	18	23	.....	19	10	65	6	26 16
18	22	33	24	19	36	30	.....	31	22	131	6	26 17
18	17	12	21	27	24	13	.....	12	24	46	6	26 18
25	29	22	30	13	22	13	.....	27	8	96	6	26 19
32	23	18	19	17	21	10	.....	3	33	107	6	26 20
31	37	27	35	10	14	31	.....	28	6	48	6	26 21
29	24	19	24	29	29	27	.....	15	4	52	6	26 22
10	33	21	22	21	25	32	.....	6	15	65	6	26 23
33	20	13	17	16	12	22	.....	12	31	75	6	26 24
22	32	16	31	21	27	21	.....	9	29	63	6	26 25
15	27	23	24	29	18	18	.....	17	37	80	6	26 26
8	4	27	20	23	25	20	.....	31	18	141	6	26 27
13	8	23	10	26	23	18	.....	20	29	91	6	26 28
14	16	29	22	33	32	25	.....	21	18	112	6	26 29
37	18	29	24	18	27	27	.....	33	14	62	6	26 30
30	33	31	37	35	32	29	.....	14	16	107	4	10 31
25	12	36	18	34	35	35	.....	17	3	127	4	12 32
34	36	35	32	36	31	32	.....	29	20	117	6	26 33
27	27	31	33	28	30	36	.....	35	36	66	6	26 34
35	33	37	36	32	36	32	.....	37	35	98	6	26 35
36	29	34	33	37	32	37	.....	5	25	98	6	26 36



Order of annual merit.	Name.	State.	Date of admission.	Age at date of admission.	
				Years.	Months.
23	Agee, Alfred Pelham .....	Alabama .....	June 11, 1879 .....	16	10
10	Alexander, Robert Calder .....	Kentucky .....	Sept. 22, 1879 .....	16	2
29	Balthis, Harry Hamilton .....	Illinois .....	June 11, 1879 .....	17	8
*6	<b>Barkley, Richard Warren</b> .....	Missouri .....	June 19, 1875 .....	16	3
14	Barnard, John Hall .....	New York .....	Sept. 23, 1878 .....	17	2
*3	<b>Bowman, William Ezekiel</b> .....	Michigan .....	Sept. 22, 1879 .....	16	3
18	Brady, Cyrus Townsend .....	Kansas .....	Sept. 22, 1879 .....	17	9
11	Chapin, Frederick Lincoln .....	Illinois .....	Sept. 22, 1879 .....	16	3
27	Colvin, Frank Reginald .....	New York .....	Sept. 22, 1879 .....	17	2
30	Dalrymple, Elton Wesley .....	Iowa .....	June 21, 1878 .....	16	4
35	Dovalé, Arthur .....	New York .....	Sept. 23, 1878 .....	17	10
17	Frazier, Robert Thomas .....	Tennessee .....	Sept. 23, 1879 .....	16	4
8	George, Harry .....	Michigan .....	June 11, 1879 .....	16	1
19	Gignilliat, Thomas Heyward .....	Georgia .....	Sept. 23, 1878 .....	15	7
37	Gray, Willie Theodore .....	North Carolina .....	May 8, 1878 .....	18	0
*1	<b>Greene, Samuel Dana, jr.</b> .....	Rhode Island .....	June 18, 1879 .....	14	7
15	Jackson, John Alexander .....	Florida .....	Sept. 22, 1879 .....	17	11
*5	<b>Jackson, John Brinckerhoff</b> .....	New Jersey .....	Sept. 22, 1879 .....	17	1
7	Keith, Albion Sherman .....	Massachusetts .....	Sept. 22, 1879 .....	16	5
34	Ledbetter, William Hamilton .....	Texas .....	Sept. 22, 1879 .....	17	8
36	Legaré, Alexander Brown .....	South Carolina .....	Mar. 20, 1878 .....	18	0
22	Lerch, Robert Lee .....	Ohio .....	Sept. 22, 1879 .....	16	3
16	Megrath, William Alonzo .....	Georgia .....	Sept. 22, 1879 .....	17	4
25	Mitchell, Sydney Zollicoffer .....	Alabama .....	Sept. 23, 1878 .....	16	6
21	O'Leary, Timothy Stephen .....	Massachusetts .....	Sept. 22, 1879 .....	18	0
24	Pettit, Harry Corbin .....	Indiana .....	Sept. 22, 1879 .....	15	10
26	Philbin, Patrick Henry .....	Maryland .....	June 21, 1878 .....	17	8
31	Schrader, George Morrison von .....	Missouri .....	Sept. 23, 1878 .....	16	5
38	Smith, Thomas Berchmans .....	Alabama .....	June 21, 1878 .....	17	8
12	Stout, George Clymer .....	Pennsylvania .....	Sept. 22, 1879 .....	17	2
*2	<b>Street, George Washington</b> .....	Wisconsin .....	Sept. 22, 1879 .....	16	7
*4	<b>Sweeting, Charles Edward</b> .....	New York .....	Sept. 22, 1879 .....	17	11
9	Thurston, Benjamin Easton .....	Indiana .....	Sept. 22, 1879 .....	15	5
20	Toney, Tremlet Vivian .....	Illinois .....	June 11, 1879 .....	17	8
28	Weeks, Edwin Babbitt .....	Oregon .....	Sept. 23, 1878 .....	15	3
33	Wilson, William Joseph .....	Ohio .....	Sept. 22, 1879 .....	17	11
13	Witherspoon, Thomas Alfred .....	Tennessee .....	June 11, 1879 .....	17	2
32	Woods, Robert Harris .....	Virginia .....	Sept. 23, 1878 .....	17	10



MIDSHIPMEN.

38 members.

Order of merit in—										Sea-service in practice-ships.		Order of annual merit.
Seamanship.	Naval tactics.	Ordnance instructions and infantry tactics.	Astronomy.	Physics and chemistry.	Light and heat.	Mechanics and calculus.	English and history.	French.	Number of demerits.	Months.	Days.	
24	27	18	18	26	21	16	18	21	122	7	5	23
8	9	9	13	11	14	13	15	15	77	7	5	10
24	30	37	34	32	17	28	33	34	28	7	5	29
16	11	8	3	3	4	7	1	4	24	4	23	6
6	6	11	10	23	23	23	5	24	73	7	5	14
4	17	7	5	5	5	3	7	10	56	7	5	3
17	36	20	19	22	23	14	26	11	92	7	5	18
6	16	3	14	16	20	17	12	13	69	7	5	11
28	34	38	19	18	30	24	28	18	52	7	5	27
37	26	36	24	23	31	24	22	22	147	7	5	30
30	37	32	25	33	36	34	38	35	118	7	5	35
19	28	19	21	15	15	10	28	17	169	7	5	17
11	15	9	4	9	7	6	26	27	161	7	5	8
32	22	30	15	14	8	12	12	23	84	6	10	19
36	32	34	30	37	35	32	36	30	95	7	5	37
2	3	1	1	1	2	2	2	1	58	7	5	1
29	10	29	12	13	19	14	5	8	173	7	5	15
11	4	13	6	11	9	5	7	5	38	7	5	5
5	8	12	7	8	6	8	17	5	67	7	5	7
34	38	27	32	36	16	35	15	33	79	7	5	34
17	24	23	35	38	37	33	31	36	100	7	5	36
26	17	21	15	17	21	24	24	3	107	7	5	22
14	12	15	21	25	12	11	25	36	104	7	5	16
15	19	25	31	34	28	22	20	9	109	7	5	25
21	6	16	15	19	25	28	11	19	69	7	5	21
26	21	27	26	29	33	18	3	27	96	7	5	24
20	14	23	27	28	18	20	32	29	63	7	5	26
22	24	22	36	34	28	36	34	32	118	4	23	31
38	35	32	37	31	37	38	35	31	190	7	5	38
3	12	6	21	6	9	21	18	26	91	6	14	12
1	1	4	2	2	1	1	9	2	61	7	5	2
8	5	2	8	4	3	4	14	12	193	7	5	4
22	2	4	11	7	11	9	4	7	53	7	5	9
10	23	16	28	30	25	30	9	20	78	7	5	20
33	31	31	29	27	34	27	20	16	134	7	5	28
30	33	35	33	21	32	30	28	38	101	7	5	33
11	19	13	9	9	13	19	23	25	47	7	5	13
34	29	26	38	20	25	37	37	13	49	7	5	32

Order of annual merit.	Name.	State.	Date of admission.
29	Barker, William Alfred.....	Colorado.....	Sept. 22, 1880
4	Beecher, Albert Morrison.....	Iowa.....	June 11, 1880
20	Bush, William Wirt, jr.....	New York.....	Sept. 22, 1880
31	Carter, Vaulx.....	Pennsylvania.....	Sept. 22, 1880
21	Cook, William Ellsworth.....	Ohio.....	Sept. 22, 1880
*1	Curtis, Frederic Ellsworth.....	Massachusetts.....	Sept. 22, 1880
19	Harrell, John Randolph.....	Louisiana.....	Sept. 22, 1880
18	Hayes, Charles Harold.....	Pennsylvania.....	Sept. 22, 1880
11	Hazeltine, Charles Walter.....	Missouri.....	June 11, 1880
2	Hoggatt, Wilford Bacon.....	Indiana.....	June 11, 1880
16	Jastremski, Leon Henry.....	Louisiana.....	Sept. 22, 1879
24	Johnston, William.....	Mississippi.....	June 11, 1880
12	Jones, Hilary Pollard, jr.....	Virginia.....	Sept. 22, 1880
8	Leary, Thomas Horton.....	North Carolina.....	Sept. 22, 1880
26	Macpherson, Victor.....	Kentucky.....	Sept. 22, 1880
22	Maxey, John Wharton.....	Texas.....	June 11, 1880
10	McCreary, Wirt.....	Pennsylvania.....	June 11, 1879
9	McDonald, John Daniel.....	Nevada.....	Oct. 6, 1880
23	McKean, Josiah Slutts.....	Ohio.....	Sept. 22, 1879
7	McNulta, Herbert.....	Illinois.....	June 11, 1880
6	Moseley, Nathaniel Stockwell.....	California.....	Mar. 22, 1880
27	O'Malley, Williams Ambrose.....	Pennsylvania.....	Sept. 22, 1880
17	Plunkett, Charles Peshall.....	District of Columbia.....	Sept. 30, 1879
13	Seymour, Isaac Knight.....	Maine.....	Sept. 22, 1880
15	Shoemaker, William Rawle.....	New Mexico.....	June 11, 1880
25	Smith, Sidney Fuller.....	Massachusetts.....	Sept. 22, 1880
32	Sparling, Frederick Herbert.....	Washington Territory.....	Dec. 29, 1879
14	Terrell, Douglass Fuqua.....	Mississippi.....	Sept. 22, 1880
5	Welles, Rogers, jr.....	Connecticut.....	Sept. 22, 1880
3	Williams, Clarence Stewart.....	Ohio.....	Sept. 22, 1880
30	Williams, William Plumb.....	Connecticut.....	June 11, 1880
28	Wirt, William Edgar.....	Ohio.....	Sept. 22, 1880

MIDSHIPMEN.

32 members.

Age at date of admission.		Order of merit in—								Sea-service in practice-ships.		
Years.	Months.	Trigonometry.	Analytical geometry.	Descriptive geometry.	Physics and chemistry.	History and rhetoric.	French.	Drawing.	Number of demerits.	Months.	Days.	Order of annual merit.
16	6	31	25	28	31	31	31	11	130	3	29	29
17	4	6	3	2	3	10	24	6	102	6	16	4
15	8	14	8	24	26	24	23	18	154	4	23	20
17	1	35	32	20	28	28	33	3	178	4	23	31
18	0	16	28	25	19	23	8	21	189	4	23	21
17	8	5	1	1	2	1	1	4	67	4	23	31
16	7	11	18	8	24	19	21	13	132	4	23	19
16	8	23	23	10	21	15	21	1	45	4	23	18
17	2	19	21	14	13	4	9	27	105	6	16	11
14	9	1	2	5	1	2	6	14	42	6	16	2
14	11	12	15	21	14	22	4	29	124	6	16	16
17	10	32	17	21	29	28	2	12	105	4	23	24
16	10	14	14	15	16	9	3	31	108	3	17	12
16	11	4	7	7	9	13	15	26	34	4	23	8
15	3	22	21	29	23	20	31	36	143	4	23	26
16	5	20	19	31	12	18	25	33	210	6	16	22
17	1	16	9	16	15	4	19	23	117	4	23	10
16	11	12	6	11	8	14	14	32	61	3	29	9
15	3	28	20	27	18	16	13	30	178	4	23	23
17	6	9	9	6	4	12	5	10	128	6	16	7
18	0	7	12	9	4	6	7	8	195	5	22	6
17	4	24	27	19	27	26	33	9	69	4	23	27
15	7	8	11	12	24	25	27	7	187	4	23	17
17	6	10	25	18	6	10	11	28	40	4	23	13
17	4	16	16	13	16	7	16	5	112	6	16	15
16	11	24	24	17	20	20	26	14	114	4	23	25
18	0	32	29	30	33	34	36	25	230	6	16	32
17	3	20	13	21	11	8	12	22	80	4	23	14
17	9	3	3	3	10	17	17	2	63	4	23	5
16	11	2	5	4	7	3	9	17	28	4	23	3
17	11	29	30	32	30	34	29	19	78	6	16	30
17	9	27	30	26	22	31	33	20	149	4	23	28

Order of annual merit.			
	Name.	State.	Date of admission.
16	Atwood, John Cowan.....	Missouri.....	June 11, 1880
36	Blake, Henry Davis.....	North Carolina.....	Sept. 20, 1880
12	Burnstine, Albert.....	Michigan.....	Sept. 22, 1881
33	Clark, Horry Dent.....	Georgia.....	June 11, 1881
13	Coontz, Robert Edward.....	Missouri.....	Sept. 22, 1881
24	Corpening, Charles Macon.....	North Carolina.....	June 11, 1881
37	Crisfield, James Alfred Pearce.....	Maryland.....	Feb. 1, 1881
27	Davis, James Sherlock.....	Ohio.....	June 11, 1880
35	De Krafft, John Charles Philip.....	Iowa.....	Feb. 28, 1881
15	Dutton, Arthur Henry.....	Indiana.....	Sept. 21, 1881
14	Eberle, Edward Walter.....	Arkansas.....	Sept. 22, 1881
19	Edgar, Webster Appleton.....	New York.....	Sept. 22, 1881
11	Ferris, Louis Dnane.....	New York.....	Sept. 21, 1881
†	Friedlander, Harry.....	California.....	Sept. 22, 1880
4	Gilmer, William Wirt.....	Virginia.....	June 11, 1880
30	Howell, Robert Beecher.....	Michigan.....	Sept. 21, 1881
32	Jacobs, Benjamin.....	Kansas.....	June 11, 1881
5	Kittrell, James Wesson.....	Mississippi.....	Sept. 23, 1881
9	Lombard, Benjamin Matthew.....	Iowa.....	Sept. 21, 1881
†	McCord, Harry Herrick.....	New York.....	June 11, 1880
7	McGuinness, John Patrick.....	Idaho Territory.....	Sept. 21, 1881
21	Nes, David Small.....	Pennsylvania.....	June 13, 1881
38	Pitner, Samuel Ellis.....	Tennessee.....	Sept. 22, 1881
3	Poe, Charles Carroll.....	Pennsylvania.....	Sept. 21, 1881
16	Raichle, Frank Godfrey.....	New York.....	June 11, 1880
†	<b>Russell, Robert Lee</b> .....	Georgia.....	June 14, 1881
23	Sargent, Frederic Homer.....	Illinois.....	June 11, 1880
8	Shindel, James Elliott.....	Pennsylvania.....	June 13, 1881
34	Shipley, Richard Trenton.....	Missouri.....	Feb. 3, 1881
18	Slade, Thomas Bog.....	Georgia.....	June 11, 1881
29	Sloan, Albert Brown.....	Missouri.....	Sept. 22, 1880
2	Slocum, George Ralph.....	Illinois.....	Sept. 22, 1881
26	Tarbox, Glennie.....	South Carolina.....	Sept. 22, 1881
10	Tennant, George Boyce.....	Michigan.....	Sept. 22, 1881
6	Thompson, Alexander.....	New York.....	Sept. 23, 1881
28	Tilden, Edward Woodruff.....	Ohio.....	June 13, 1881
20	Wood, John Whitaker.....	North Carolina.....	Sept. 22, 1880
22	Wright, Benjamin.....	Tennessee.....	Sept. 21, 1881

† Turned back from present second class.

## MIDSHIPMEN.

38 members.

Age at date of admission.		Order of merit in—				Number of demerits.	Sea-service in practice-ships.		Order of annual merit.
Years.	Months.	Mathematics	English and history.	French.	Drawing.		Months.	Days.	
17	0	16	17	27	10	121	6	16	16
18	0	32	29	25	36	241	2	6	36
17	0	9	16	17	27	123	2	6	12
16	8	28	25	31	41	238	4	23	33
17	3	13	3	29	40	24	2	6	13
16	5	21	23	7	38	152	4	23	24
16	2	37	36	40	14	244	4	23	37
17	9	18	21	39	31	87	6	16	27
16	9	33	38	34	26	83	4	23	35
17	1	25	15	7	7	123	2	6	15
17	0	13	8	22	28	59	2	6	14
17	5	34	31	1	18	143	2	6	19
17	3	10	29	23	6	96	2	6	11
17	11						4	23	†
17	0	3	18	15	4	24	6	16	4
17	8	23	19	45	33	133	2	6	30
16	9	28	40	6	43	46	4	23	32
17	6	7	4	9	20	113	2	6	5
14	9	4	10	34	20	122	2	6	9
15	5						6	16	†
17	0	6	12	16	15	66	2	6	7
15	11	22	35	40	1	56	4	23	21
17	3	15	43	32	17	36	2	6	38
17	9	4	22	2	13	65	2	6	3
16	11	12	34	24	2	105	6	16	16
16	7	2	2	3	29	68	4	23	*1
17	6	26	20	36	8	108	6	16	23
17	8	5	13	10	20	112	4	23	8
16	2	23	33	36	38	256	4	23	34
17	11	11	28	44	3	66	4	23	18
17	8	34	7	26	44	169	4	23	29
17	0	1	1	12	34	39	2	6	2
17	7	16	23	19	30	287	2	6	26
17	9	19	5	11	8	136	2	6	10
17	0	7	6	21	10	121	2	6	6
17	11	28	13	29	19	206	4	23	28
16	11	31	8	5	32	98	4	23	20
16	2	26	11	33	25	84	2	6	22

## NAVAL CADETS.

*Fourth class—63 members.*

Name.	State.	Date of admission.	Age at date of admission.	
			Years.	Months.
Allen, Walter Raymond .....	New York .....	June 17, 1882	16	7
Allison, Joseph Nicholas .....	Texas .....	Sept. 28, 1882	17	8
Andrews, Philip .....	New Jersey .....	Sept. 28, 1882	16	6
Beckham, Robert Wickliffe .....	Kentucky .....	June 22, 1882	15	9
Berry, John Giveen .....	Maine .....	June 17, 1882	16	4
Bertholf, Ellsworth Price .....	New Jersey .....	Sept. 28, 1882	16	6
Biddle, John McGowan .....	Arizona .....	June 20, 1882	16	10
Billings, Cornelius Canfield .....	Vermont .....	Sept. 28, 1882	17	9
Bird, Claire Brayton .....	Wisconsin .....	Oct. 28, 1882	14	0
Breed, George .....	Kentucky .....	June 17, 1882	17	11
Brockway, Hugh Walter .....	Illinois .....	Oct. 3, 1882	16	4
Bullard, William Hannum Grabb .....	Pennsylvania .....	Sept. 28, 1882	15	10
Caldwell, Chester Lawrence .....	New York .....	Sept. 28, 1882	17	5
Caldwell, William Howell .....	Tennessee .....	Sept. 28, 1882	17	9
Campbell, Archibald .....	New York .....	Sept. 28, 1882	17	2
Cooper, George Franklin .....	Georgia .....	June 17, 1882	17	9
Darby, Samuel Edgar .....	Arkansas .....	Sept. 28, 1882	15	8
Dodd, Willard Lonis .....	Indiana .....	Sept. 28, 1882	17	3
Foust, William Harry .....	Ohio .....	Sept. 28, 1882	17	11
Francis, William Christy .....	Florida .....	June 17, 1882	17	11
Griswold, John Noble .....	Wisconsin .....	Sept. 30, 1882	17	0
Hall, Clinton Lincoln .....	Massachusetts .....	Sept. 28, 1882	17	6
Hawkes, Charles Edward .....	Wisconsin .....	June 17, 1882	17	3
Hawk, George Frederick .....	Pennsylvania .....	June 17, 1882	18	0
Heilig, Edwin Augustus .....	Virginia .....	Sept. 28, 1882	16	6
Hines, Harold Kemble .....	Kentucky .....	Oct. 2, 1882	15	9
Howard, Henry Lee .....	Texas .....	Sept. 28, 1882	16	10
Irwin, Sam Willson .....	Indiana .....	June 17, 1882	17	4
Jenkins, Friend William .....	Pennsylvania .....	Sept. 28, 1882	17	3
Johnson, Edwin Van Deusen .....	Indiana .....	June 17, 1882	16	9
Knottles, John Prescott .....	New York .....	Sept. 28, 1882	16	11
Kress, Frederic Norton .....	New York .....	Oct. 3, 1882	15	9
La Tourette, William Sherman .....	Ohio .....	Oct. 21, 1882	17	5
Ledbetter, Thomas Pryor .....	Alabama .....	Sept. 28, 1881	15	2
Levis, Francis Adelbert .....	New York .....	June 17, 1882	17	2
Luzenberg, Charles Kennard .....	Illinois .....	Sept. 28, 1881	16	2
Martin, John Joseph .....	New York .....	Sept. 28, 1882	16	8
McMillan, John Taylor .....	California .....	June 17, 1882	15	3
Moale, Edward .....	Montana .....	June 17, 1882	15	8
Moeller, Franklin .....	New York .....	Sept. 28, 1882	17	5
Murray, William Joseph .....	New York .....	June 17, 1882	15	3
Oman, Joseph Wallace .....	Pennsylvania .....	June 17, 1882	17	10
O'Neale, Miles Gaylord .....	Indiana .....	Sept. 28, 1882	15	5
Parker, Frederic .....	Massachusetts .....	Sept. 28, 1882	17	6
Proctor, Wallace Nicholson .....	Massachusetts .....	June 17, 1882	16	10
Redfield, William Nye .....	Massachusetts .....	Sept. 28, 1882	17	5
Reilly, George Brinton .....	Wisconsin .....	Aug. 28, 1882	17	11
Rumsey, Harry Edgerton .....	Wyoming .....	Sept. 28, 1882	16	7
Salter, Jasper Colton .....	New York .....	Sept. 28, 1882	15	7
Stearns, John Warren .....	New Hampshire .....	Sept. 28, 1881	15	3



## NAVAL CADETS.

*Fourth class—63 members.*

Name.	State.	Date of admission.	Age at date of admission.	
			Years.	Months.
Stebbins, Charles Wallace .....	Maryland. ....	Oct. 1, 1881	19	9
Stone, Clarence Morton .....	Indiana. ....	June 17, 1882	15	8
Strite, Samuel Melchoir .....	Maryland. ....	Sept. 28, 1882	16	4
Tisdale, Ryland Dillard .....	Kentucky .....	Sept. 28, 1882	16	8
Trapnell, Benjamin .....	West Virginia .....	Sept. 28, 1882	15	1
Treadway, Henry Blake .....	Illinois .....	Feb. 4, 1881	16	1
Tuggle, James Richardson .....	Kentucky .....	Sept. 28, 1882	17	6
Van Keuren, Jerome .....	New York .....	June 15, 1881	16	6
Webster, Frank Daniel .....	Missouri .....	Sept. 28, 1882	16	0
Winram, Samuel Black .....	Missouri .....	June 17, 1882	17	8
Witherspoon, Edward Taylor .....	Connecticut .....	Sept. 28, 1882	17	10
Wood, Harry Dwight .....	Massachusetts .....	June 17, 1882	15	11
Young, David May .....	Virginia .....	Sept. 30, 1882	16	6

*Relative standing of class*

Order of general merit.	Name.	State.	Date of admission.	Age at date of admission.	
				Years.	Months.
*1	Theiss, Emil .....	Wisconsin .....	Oct. 1, 1878	17	11
*2	Gatewood, Robert Woodland .....	Virginia .....	Oct. 1, 1878	16	9
*3	Creighton, William Henry Paul .....	Ohio .....	Oct. 1, 1878	19	2
*4	Ferguson, George Robert .....	Connecticut .....	Oct. 1, 1878	19	3
*5	Miller, Peter .....	Kansas .....	Oct. 1, 1878	18	7
6	Chambers, William Henry .....	Pennsylvania .....	Oct. 1, 1878	19	11
7	Fitts, James Henry .....	Virginia .....	Oct. 1, 1878	17	7
8	Rommell, Charles Edward .....	Pennsylvania .....	Oct. 1, 1878	16	2
9	Gsantner, Otto Charles .....	New Jersey .....	Oct. 1, 1878	19	0
10	Clarke, Arthur Henry .....	Rhode Island .....	Oct. 1, 1878	18	1
11	Pendleton, Joseph Henry .....	Pennsylvania .....	Oct. 1, 1878	18	3
12	Hawthorne, Harry Leroy .....	Kentucky .....	Oct. 1, 1878	19	9
13	Willis, Clarence Calhoun .....	Mississippi .....	Oct. 1, 1878	19	0
14	Conant, Frank Henry .....	Massachusetts .....	Oct. 1, 1878	19	5
15	Leopold, Harry Girard .....	Ohio .....	Oct. 1, 1878	19	6
16	Higgins, Robert Barnard .....	Maryland .....	Oct. 1, 1878	20	0
17	Day, Willis Bunner .....	Ohio .....	Sept. 13, 1877	19	10
18	Leonard, John Calvin .....	Ohio .....	Oct. 1, 1878	19	3
19	Addicks, Walter Robarts .....	Pennsylvania .....	Oct. 1, 1878	17	5
20	Howland, Charles Henry .....	Rhode Island .....	Oct. 1, 1878	17	5
21	Winchell, Ward Philo .....	Ohio .....	Oct. 1, 1878	19	5
22	McAllister, Andrew .....	New York .....	Sept. 13, 1877	19	3
23	Coley, Frederick Edward .....	New York .....	Oct. 1, 1878	16	8



## ENGINEERS.

of 1882—23 members.

## Order of merit in—

Ship-building.	Mechanical drawing.	Fabrication.	Designing machinery.	Marine engines.	Boilers.	Electricity.	Physical measurements.	Applied mechanics.	Naval architecture and method of least squares.	Naval architecture (elective).	French and Spanish.	Number of demerits.	Sea-service in practice ships.		Order of general merit.
													Months.	Days.	
1	2	1	3	3	1	2	1	3	2	1	1	80	7	18	1
3	2	2	1	1	3	1	1	1	1	2	5	89	7	18	2
6	7	5	7	4	4	6	11	4	6	5	2	34	7	18	3
5	1	2	3	5	2	4	12	5	5	6	9	25	7	18	4
2	8	18	6	2	6	3	16	2	3	4	7	44	7	18	5
9	5	7	2	6	5	5	5	9	6	.....	10	62	7	18	6
10	4	12	5	8	7	8	20	8	4	7	3	69	7	18	7
4	9	10	8	7	8	7	18	6	9	.....	8	34	7	18	8
19	6	2	10	11	10	18	5	14	15	.....	4	88	7	18	9
18	22	20	16	10	21	16	18	10	8	.....	12	79	7	18	10
10	16	16	8	12	9	9	4	22	14	.....	6	43	7	18	11
13	19	21	20	13	20	13	8	13	13	.....	18	73	7	18	12
17	15	9	16	16	13	17	12	11	11	.....	15	87	7	18	13
7	21	15	14	20	14	10	23	20	20	.....	11	61	7	18	14
23	10	6	11	9	17	12	5	6	10	2	23	112	7	18	15
7	13	14	18	18	18	20	3	18	18	.....	16	73	7	18	16
16	12	7	13	15	12	19	15	19	19	.....	18	48	8	2	17
15	19	19	21	14	15	15	20	12	15	.....	13	97	7	18	18
10	14	12	11	19	15	11	8	16	17	.....	20	38	7	18	19
14	17	21	15	17	19	14	8	14	12	.....	14	72	7	18	20
20	11	11	21	21	11	21	12	21	23	.....	22	67	7	18	21
21	18	17	23	23	23	22	20	23	22	.....	16	82	7	18	22
22	23	23	19	21	22	23	17	17	21	.....	21	126	7	18	23

CADET.

*First class—*

Order of annual merit.	Name.	State.	Date of admission.	Age at date admission.	
				Years.	Months.
*3	Aldrich, William Sleeper .....	New Jersey .....	Oct. 1, 1879	16	6
*2	Armistead, Samuel Wilson .....	Virginia .....	Oct. 1, 1879	18	0
*4	Baxter, William Joseph .....	Ohio .....	Oct. 1, 1879	20	11
19	Carswell, William Beggs .....	Delaware .....	Oct. 1, 1879	18	10
10	Darrah, William Francis .....	Rhode Island .....	Oct. 1, 1879	17	1
7	Dyson, Charles Wilson .....	Pennsylvania .....	Oct. 1, 1879	17	9
*5	Eaton, Charles Phillips .....	Wisconsin .....	Oct. 1, 1879	16	4
15	Ellenger, Julius .....	Maryland .....	Oct. 1, 1879	16	11
9	Ellicott, John Morris .....	Maryland .....	Oct. 1, 1879	20	0
14	Field, Harry Ashby .....	Virginia .....	Oct. 1, 1879	17	2
21	Gillis, Harry Alexander ..	Pennsylvania .....	Oct. 1, 1879	17	9
24	Glascok, Eustace Straughn .....	Maryland .....	Oct. 1, 1879	16	6
16	Gross, Charles Jacob .....	Maryland .....	Oct. 1, 1879	17	11
11	Halstead, Alexander Seaman .....	Pennsylvania .....	Oct. 1, 1879	17	9
12	Herbert, William Cromwell .....	Pennsylvania .....	Oct. 1, 1879	15	6
6	Littlehales, George Washington .....	Pennsylvania .....	Oct. 1, 1879	18	11
18	Palmer, James Edward .....	North Carolina .....	Oct. 1, 1879	18	3
20	Quinby, Isaac Henry .....	New York .....	Oct. 1, 1878	17	7
22	Ryan, Philip Joseph .....	New York .....	Oct. 1, 1879	19	11
17	Shock, Thomas Alexander Wharton .....	Maryland .....	Oct. 1, 1878	18	4
13	Webster, Charles Franklin .....	Pennsylvania .....	Oct. 1, 1879	17	8
*1	Woodruff, Charles Edward .....	Pennsylvania .....	Oct. 1, 1879	18	11
8	Zinnell, George Frederick .....	Pennsylvania .....	Oct. 1, 1879	17	11

## ENGINEERS.

23 members.

Order of merit in—											Sea-service in practice-ships.		Order of annual merit.
Mechanical drawing.	Fabrication.	Designing machinery.	Astronomy.	Physics and chemistry.	Light and heat.	Mechanics and calculus.	English and history.	French.	Number of demerits.	Months.	Days. *		
1	1	3	5	7	2	5	12	14	17	6	11	*3	
2	4	1	4	5	3	1	7	8	11	6	11	*2	
6	20	4	5	6	4	4	1	7	34	6	8	*4	
16	7	19	16	17	19	20	16	18	42	6	8	19	
10	11	6	8	10	6	10	9	3	69	5	25	10	
10	13	5	7	8	8	6	4	11	60	6	8	7	
7	22	9	2	2	5	3	10	1	72	6	8	*5	
20	13	16	15	15	17	14	20	22	105	6	11	15	
3	7	12	8	12	9	9	7	4	30	6	8	9	
12	11	14	20	21	16	12	23	16	23	6	8	14	
18	21	17	24	23	22	18	16	17	50	6	8	21	
24	25	20	22	22	24	21	21	20	70	6	11	24	
9	10	18	14	14	20	23	18	5	32	6	11	16	
15	3	10	11	8	12	10	14	10	66	6	11	11	
19	18	11	10	13	10	15	13	8	73	6	8	12	
14	6	8	3	3	11	7	2	2	13	6	5	6	
8	2	15	18	18	18	17	24	23	40	6	11	18	
4	15	23	23	19	15	18	22	13	169	8	24	20	
23	24	24	21	20	21	22	10	20	95	6	8	22	
21	17	21	13	16	14	16	19	19	45	7	12	17	
22	18	13	17	11	13	13	6	14	62	6	11	13	
4	9	2	1	1	1	2	5	6	53	6	8	*1	
12	5	7	12	4	7	8	2	12	52	6	11	8	

Order of annual merit.			
	Name.	State.	Date of admission.
17	Baron, Charles Christopher.....	Massachusetts.....	October 1, 1880
*2	Biddle, Andrew Porter.....	Michigan.....	October 1, 1880
*1	Capps, Washington Lee.....	Virginia.....	October 1, 1880
19	Crisp, Richard Owens.....	Maryland.....	October 1, 1880
15	Davis, Edward.....	Pennsylvania.....	October 1, 1880
12	Fahs, Charles Marion.....	Alabama.....	October 1, 1880
7	Field, Horace Almeron.....	New York.....	October 1, 1880
*3	Hewes, Charles Hinman.....	Pennsylvania.....	October 1, 1880
6	Hill, Frank Kinsey.....	Ohio.....	October 1, 1880
8	Hughes, Arthur Lewis.....	Ohio.....	October 1, 1880
5	Hulme, Walter Oliphant.....	New Jersey.....	October 1, 1880
18	Jones, Horace Walker.....	Virginia.....	October 1, 1880
22	Keilholtz, Pierre Otis.....	Maryland.....	October 1, 1880
*4	Knepper, Chester Mahlon.....	Pennsylvania.....	October 1, 1880
†	Lawrance, William Hunter.....	Pennsylvania.....	October 1, 1879
16	Loomis, Frederick James.....	Connecticut.....	October 1, 1880
13	McCay, Henry Kent.....	Georgia.....	October 1, 1880
22	Mathews, Albert Clifton.....	Ohio.....	October 1, 1880
24	Orr, Robert Hunter.....	Delaware.....	October 1, 1880
9	Parmenter, Henry Earl.....	Rhode Island.....	October 1, 1880
25	Richardson, Thornton Russell.....	Pennsylvania.....	October 1, 1880
20	Starr, John Burton.....	Kansas.....	October 1, 1880
10	Weintz, Robert Lincoln.....	Pennsylvania.....	October 1, 1880
14	Whittlesey, Humes Houston.....	Indiana.....	October 1, 1880

† Turned back from

## ENGINEERS.

24 members.

Age at date of admission.		Order of merit in—						Sea-service in practice-ships.		Order of annual merit.
Years.	Months.	Mathematics.	Mechanical drawing and fabrication of machinery.	Elementary physics.	History and rhetoric.	French.	Number of demerits.	Months.	Days.	
19	0	18	8	16	21	4	137	2	11	17
18	7	4	13	9	5	1	114	2	11	*2
16	8	1	2	4	2	2	18	2	8	*1
18	9	10	14	14	25	25	174	2	11	19
20	8	16	3	18	14	13	91	2	11	15
17	9	13	17	17	9	7	136	2	11	12
19	3	9	9	5	7	10	39	2	11	7
16	4	2	5	1	12	17	58	2	8	*3
19	6	5	10	3	15	16	88	2	11	6
19	9	8	24	8	1	5	37	2	8	8
20	10	7	5	6	6	9	18	2	8	5
19	1	14	20	14	17	15	77	2	11	18
18	5	24	4	20	23	22	83	2	8	22
18	9	3	22	2	3	14	132	2	8	*4
20	11							6	11	(i)
18	0	19	7	9	13	19	30	2	8	16
20	5	11	20	13	15	8	77	2	8	13
18	10	24	15	23	19	19	91	2	11	22
20	0	22	25	22	24	18	46	2	8	24
19	6	6	1	7	18	23	21	2	11	9
20	1	23	23	24	20	23	50	0	25	25
19	2	21	10	25	10	12	51	2	8	20
19	4	12	19	21	4	5	36	2	8	10
19	1	16	16	12	8	11	29	2	8	14

present first class.

## RELATIVE STANDING.

## CADET-ENGINEERS.

Third class—23 members.

Order of annual merit.	Name.	State.	Date of admission.	Age at date of admission.		Order of merit in—				Number of demerits.	Sea-service in practice-ships.	
				Years.	Months.	Mathematics.	Mechanical drawing and fabrication.	English and history.	French.		Months.	Days.
10	Bispham, Harrison Augustus ..	Penn .	Oct. 1, 1881	16	8	14	10	5	8	17	0	0
21	Bootes, James Thomas .....	Del ...	Oct. 1, 1881	17	10	22	14	14	14	154	0	0
15	Boyd, Harry Lansdale .....	Md ...	Oct. 1, 1881	18	11	16	6	16	7	57	0	0
*5	Chase, Volney Ogle .....	La ...	Oct. 1, 1881	20	2	6	13	3	6	61	0	0
13	Culver, William Wesley .....	Ill ....	Oct. 1, 1881	21	7	17	15	8	11	44	0	0
22	Dashiell, Julius Matthias .....	Md ...	Oct. 1, 1881	19	11	21	24	16	16	211	0	0
*2	Dieffenbach, Albert Christian ..	Penn .	Oct. 1, 1881	18	9	2	3	7	3	31	0	0
18	Evans, George Robert .....	Mass .	Oct. 1, 1881	18	7	18	20	13	21	85	0	0
8	Fenton, Theodore Cornell .....	Penn .	Oct. 1, 1881	18	8	7	3	9	13	22	0	0
6	Joynes, Walker Waller .....	Tenn .	Oct. 1, 1881	19	1	8	5	6	5	12	0	0
16	Kline, George Washington .....	N. J ..	Oct. 1, 1881	17	9	11	21	22	18	12	0	0
13	McCormick, Charles Monod ....	Va ....	Oct. 1, 1881	19	6	13	8	20	10	29	0	0
*3	McKay, William .....	Penn .	Oct. 1, 1881	16	9	3	2	2	4	25	0	0
9	Miller, William Gardner .....	Va ....	Oct. 1, 1881	16	9	9	17	12	2	55	0	0
19	Mulford, Harry Boone .....	N. J ..	Oct. 1, 1881	19	1	23	11	11	17	19	0	0
7	Rust, Armistead .....	Va ....	Oct. 1, 1881	19	3	5	9	9	11	25	0	0
23	Shields, William .....	Va ....	Oct. 1, 1881	18	10	20	19	23	24	65	0	0
11	Stanworth, Charles Semmes ....	Va ....	Oct. 1, 1881	17	2	10	23	14	9	79	0	0
12	Strauss, Joseph .....	Va ....	Oct. 1, 1881	19	10	12	7	18	19	44	0	0
*4	Tawresey, John Godwin .....	Del ...	Oct. 1, 1881	19	8	3	1	4	14	18	0	0
*1	Taylor, David Watson .....	Va ....	Oct. 1, 1881	17	7	1	12	1	1	25	0	0
20	Uberroth, Preston Henry .....	Penn .	Oct. 1, 1881	18	11	19	22	21	20	36	0	0
17	Warfield, Louis Edwin .....	Md ...	Oct. 1, 1881	17	3	15	17	19	21	86	0	0



In accordance with an act of Congress approved August 5, 1882 (see page 5), the corresponding classes of Cadet-Midshipmen and Cadet-Engineers have been consolidated, forming four classes of Naval Cadets.

## NUMERICAL SUMMARY.

November 15, 1882.

## NAVAL CADETS.

First class.....	61 members.
Second class.....	56 members
Third class.....	61 members.
Fourth class.....	63 members.
Total.....	240

## DEATHS, RESIGNATIONS, AND DISMISSALS.

November 15, 1881, to November 16, 1882.

## RESIGNED.

Cadet-Engineer Charles E. Barnes.....	Nov. 15, 1881
Cadet-Midshipman John A. McCook.....	May 12, 1882
Cadet-Midshipman Robert E. L. Gibson.....	June 15, 1882
Cadet-Midshipman James J. Livingood.....	June 15, 1882
Cadet-Midshipman George S. Pentz.....	June 15, 1882
Cadet-Midshipman William S. Scott.....	June 15, 1882
Cadet-Midshipman Alonzo E. McIntire.....	June 15, 1882
Cadet-Midshipman R. R. W. B. Stevens.....	June 15, 1882
Cadet-Engineer James F. McCusker.....	June 15, 1882
Cadet-Midshipman Horatio L. Fillebrown.....	July 17, 1882
Cadet-Midshipman John T. Arnold *.....	July 27, 1882
Naval Cadet Thomas P. Pattison.....	Oct. 4, 1882
Naval Cadet Harvey H. Cassil.....	Oct. 12, 1882
Naval Cadet Ambrose Cramer.....	Oct. 12, 1882
Naval Cadet Howard H. Bullitt.....	Oct. 13, 1882
Naval Cadet George S. Welsh.....	Oct. 14, 1882
Naval Cadet Daniel J. Driscoll.....	Oct. 27, 1882

## DROPPED.

Cadet-Engineer Marius Duvall, jr.....	June 19, 1882
Cadet-Midshipmen Leonidas L. Robinson †.....	June 19, 1882
Naval Cadet Samuel W. Irwin ‡.....	Nov. 16, 1882

## DIED.

Cadet-Midshipman Charles F. Hepp (at Bangor, Pa.).....	April 11, 1882
Cadet-Engineer Lawrence A. Wedderburn.....	April 27, 1882

## DISMISSED.

Naval Cadet Milton Dargan.....	Nov. 7, 1882
Naval Cadet Jason G. Lamison.....	Nov. 7, 1882
Naval Cadet James R. Pagin.....	Nov. 7, 1882

\* After passing the four years' course successfully.

† For being deficient in color sense. Academic standing satisfactory.

‡ For defective eyes. Academic standing satisfactory.

## PRACTICE CRUISE.

### INSTRUCTIONS FOR ROUTINE AND EXERCISE DURING PRACTICE CRUISE.

The prescribed routine must be followed as nearly as the weather, other circumstances, and the proficiency of the Cadets will permit.

The Cadets of the first class shall be in three watches, and shall perform the same duties that will be required of them after graduation. (See Navy Regulations.)

The Cadets of the second, third, and fourth classes shall perform the duties of petty officers, seamen, ordinary seamen, and boys, except that they shall not be required to clean ship. They shall be watched and stationed with the crew, alternating, as far as practicable, with the men in the numbers of the watch-bill.

Cadet-Captains of fore-castle, tops, and after-guard will hold the numbers next to the Captains of these parts of the ship, and the Cadet Second Captains will hold the numbers next to the Second Captains.

Two cutters of each ship shall be manned by Cadets, with a Cadet of the second class as Coxswain.

The watches shall always be called as the bell strikes, and not more than five minutes shall be allowed for relieving.

Exercises at night quarters shall take place once a month and, if at sea, the guns shall be fired with blank charges as soon as ready, but guns must not be fired in port for exercise at night.

Advantage must be taken of every opportunity to impart professional knowledge to the Cadets, particularly to the first class.

When the ships are in ports where there is a navy yard, frequent visits to the yard must be made by the Cadets of the first class under charge of proper officers. These officers must endeavor to visit every dock, building, shop, &c., in the yard, and explain to the Cadets every thing connected with their uses—where and how the outfits and stores of ships are kept, and how they are obtained and transported.

Each Cadet of the first class shall be required to make a detailed report to his Commanding Officer of his visit to navy yards or other places of professional interest, which reports shall be forwarded to the Superintendent with such comments as may be necessary.

The journals of Cadets of the first class must be kept in strict accordance with the regulations, and shall contain such additional matter as the Commanding Officer may direct.

During the Practice Cruise, which is an important part of the course of instruction for Cadets, leaves of absence must not be granted by Commanding Officers, except in cases of great emergency.

When in port Cadets may be granted leave to go on shore in the afternoons and evenings only.

#### ROUTINE EXERCISES FOR PRACTICE SHIPS AT SEA.

*Monday*, a. m.—Clear ship for action; general quarters; target practice.

*Monday*, p. m.—Knotting or splicing, or fitting rigging or making up sails or reeving gear, or marking or use of log lines, or marking or use of lead line, or signals, Navy or Myer's code, &c.

*Monday*, sunset.—Evolutions—then reef down.

*Tuesday*, a. m.—Rifles, pistols, single sticks.

*Tuesday*, p. m.—Same as Monday.

*Tuesday*, sunset.—Same as Monday.

*Wednesday*, a. m.—Sails or spars.

*Wednesday*, p. m.—Same as Monday.



*Wednesday*, sunset.—Same as Monday.

*Thursday*, a. m.—Great Guns, Navigator's division and Powder division.

*Thursday*, p. m.—Boats or abandon ship.

*Thursday*, sunset.—Same as Monday.

*Friday*, a. m.—Sails or spars.

*Friday*, p. m.—Fire quarters.

*Friday*, sunset.—Same as Monday.

*Friday*, 7.30 p. m. (or dark).—Night signals.

*Saturday and Sunday*.—As per General Routine.

#### DAILY ROUTINE OF PRACTICE SHIPS AT SEA.

- Daylight. Call in night look-outs, send aloft masthead look-outs.
- 5.00 a. m. Call idlers, make sail as ordered.
- 7.00 a. m. Call all hands, pipe up all hammocks.
- 7.30 a. m. Pipe watch below to breakfast, shift into dress for the day.
- 8.00 a. m. Pipe watch on deck to breakfast.
- 8.30 a. m. Turn to, clean all bright work.
- 8.45 a. m. Sick call.
- 9.00 a. m. Clear up decks for inspection.
- 9.30 a. m. Quarters for inspection and forenoon exercise.
- 11.30 a. m. Pipe down wash clothes, clear up decks.
- 12.00 m. Pipe watch below to dinner.
- 12.30 p. m. Pipe watch on deck to dinner.
- 1.00 p. m. Turn to, clear up decks.
- 2.00 p. m. Afternoon instruction.
- 4.30 p. m. Clear up decks.
- 5.00 p. m. Pipe watch below to supper.
- 5.30 p. m. Pipe watch on deck to supper.
- 6.00 p. m. Turn to, clear up decks.
- Half hour before sunset.—Evening exercise.
- Sunset.—Quarters for inspection.
- Pipe down hammocks.
- Station night look-outs.

#### DAILY ROUTINE OF PRACTICE SHIPS IN PORT.

- 7.00 a. m. Pipe up all hammocks.
- 7.30 a. m. Clear up decks.
- 8.00 a. m. Routine evolution; pipe to breakfast; shift into dress for the day.
- 8.45 a. m. Sick call.
- 9.00 a. m. Turn to; clean all bright work, clear up decks for inspection, square yards, lower boats.
- 9.30 a. m. Quarters for inspection, forenoon exercises.
- 11.30 a. m. Pipe down wash clothes, clear up decks.
- 12.00 m. Pipe to dinner.
- 1.00 p. m. Turn to, clear up decks.
- 5.00 p. m. Clear up decks.
- 5.30 p. m. Pipe to supper.
- 6.00 p. m. Turn to, clear up decks.
- Sunset. Color Evolution, quarters for inspection, up boats, down hammocks.
- 9.00 p. m. Tattoo, pipe down, set anchor watch.
- Signals must be answered as soon as understood.
- There will be no "ready men" for spar or sail exercises.
- When the sails are bent, the gear must be bent.

When topgallant and royal yards are in the rigging with sails bent, the clews of the sails must be out and stopped to the quarter-block eyebolts.

During sail exercises, the captains of tops, topgallant and royal yardmen, *but no other men*, may remain aloft. Except while an evolution is in progress, these men must be *in the tops*, inside the topmast rigging. No evolution will be complete while a man is above the top.

When evolutions are completed, lay down on deck at once, without reference to the flagship.

Men will not be allowed aloft without signal, except in the morning watch.

All evolutions must be properly executed, and must not be hurried through to make good time. Extra gear for completing evolutions rapidly is strictly forbidden.

The position pennant under a vessel's pennant will mean that the evolution is not properly performed by that vessel.

The meal pennant will be shown when the men are at their meals, without reference to the flagship.

When no dress signal is made, the uniform of the day will be blue.

#### ROUTINE COLOR EVOLUTIONS IN PORT.

*Monday*, 8 a. m.—Loose sails to buntlines.

*Monday*, sunset.—Send down topgallant yards.

*Tuesday*, 8 a. m.—Cross topgallant yards.

*Tuesday*, sunset.—Send down topgallant yards; bend light sails.

*Wednesday*, 8 a. m.—Cross topgallant and royal yards.

*Wednesday*, sunset.—Send down topgallant and royal yards.

*Thursday*, 8 a. m.—Cross topgallant and royal yards, loose sails to bowline.

*Thursday*, sunset.—Send down topgallant and royal yards and topgallant masts.; unbend light sails.

*Friday*, 8 a. m.—Send up topgallant masts, cross topgallant and royal yards.

*Friday*, sunset.—Send down royal yards.

#### GENERAL ROUTINE.

*Monday* (1st and 3d of each month)—Scrub hammocks, windsails, and boats' awnings.

*Monday* (2d and 4th of each month)—Scrub mattress covers.

*Tuesday*—Scrub clothes.

*Friday*—Scrub clothes and mess cloths.

*Saturday*—Air bedding.

Scrub blankets at least once in three months.

*First Sunday* of each month—General muster and Articles of War.

*First Sunday* of each quarter—Full dress muster.

Undress uniform for official visits will be worn by officers at other Sunday inspections and musters.

The Ordnance Instructions and the watch and station bills issued by the Bureau of Equipment and Recruiting shall be followed as nearly as practicable.

The regulations for the Navy must be strictly enforced on board the Practice ships, and the ships must be conducted in accordance with the usages and customs of well regulated vessels of war.

F. M. RAMSAY,  
*Captain, Superintendent.*

## SUMMER CRUISE, 1882.

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### OFFICERS AND CADET-MIDSHIPMEN.

#### UNITED STATES PRACTICE-SHIP CONSTELLATION.

---

COMMANDER H. B. ROBESON, *Commanding.*  
LIEUTENANT C. S. SPERRY, *Executive Officer.*  
LIEUTENANT E. P. WOOD, *Navigator.*  
LIEUTENANT J. F. MEIGS, *Watch Officer.*  
LIEUTENANT C. A. STONE, *Watch Officer.*  
LIEUTENANT J. B. BRIGGS, *Watch Officer.*  
LIEUTENANT A. MCCrackIN, *Watch Officer.*  
CHAPLAIN J. S. WALLACE.  
PAYMASTER L. J. BILLINGS.  
SURGEON W. A. CORWIN.

#### *Cadet-Midshipmen, First Class.*

Alexander, R. C.	Greene, S. D., jr.	Philbin, P. H.	Weeks, E. B.
Bowman, W. E.	Jackson, J. B.	Stout, G. C.	Wilson, W. J.
Dovale, A.	Lerch, R. L.	Thurston, B. E.	Witherspoon, T. A.
Frazier, R. T.	Megrath, W. A.	Toney, T. V.	Woods, R. H.
Gignilliat, T. H.	Pettit, H. C.	Von Schrader, G. M.	

#### *Cadet-Midshipmen, Second Class.*

Barker, W. A.	Jastremski, L. H.	Maxcy, J. W.	Smith, S. F.
Carter, V.	Leary, T. H.	Moseley, N. S.	Terrell, D. F.
Cook, W. E.	McDonald, J. D.	O'Malley, W. A.	Welles, R. jr.
Curtis, F. E.	McKean, J. S.	Seymour, I. K.	Williams, C. S.
Hayes, C. H.	McNulta, H.	Shocmaker, W. R.	Williams, W. P.
Hazeltine, C. W.			

#### *Cadet-Midshipmen, Third Class.*

Atwood, J. C.	Eberle, E. W.	Nes, D. S.	Sloan, A. B.
Blake, H. D.	Friedlander, H.	Pagin, J. R.	Slocum, G. R.
Burnstine, A.	Howell, R. B.	Pitner, S. E.	Shipley, R. T.
Clark, H. D.	Jacobs, B.	Poe, C. C.	Tarbox, G.
Coontz, R. E.	Lamison, J. G.	Russell, R. L.	Tilden, E. W.
Davis, J. S.	Lombard, B. M.	Shindell, J. E.	
Dutton, A. H.	McCord, H. H.	Slade, T. B.	

## SUMMER CRUISE, 1882.

*Cadet-Midshipmen, Fourth Class.*

Allen, W. R.	Levis, F. A.	Moale, E.	Stearns, J. W.
Berry, J. G.	Ledbetter, T. P.	Murray, W. J.	Stone, C. M.
Hawk, G. F.	Luzenberg, C. K.	Oman, J. W.	Vankeuren, J.
Irwin, S. W.	McMillan, J. T.	Proctor, W. N.	

## U. S. PRACTICE-SHIP DALE.

COMMANDER P. F. HARRINGTON, *Commanding.*LIEUTENANT H. N. MANNEY, *Executive Officer.*LIEUTENANT W. GOODWIN, *Navigator.*LIEUTENANT R. RUSH, *Watch Officer.*LIEUTENANT W. P. POTTER, *Watch Officer.*LIEUTENANT N. T. HOUSTON, *Watch Officer.*MASTER J. F. PARKER, *Watch Officer.*

PASSED ASSISTANT SURGEON F. S. NASH.

ASSISTANT PAYMASTER T. J. COWIE.

*Cadet-Midshipmen, First Class.*

Agee, A. P.	Chapin, F. L.	Jackson, J. A.	Smith, T. B.
Balthis, H. H.	Colvin, F. R.	Keith, A. S.	Street, G. W.
Barkley, R. W.	Dalrymple, E. W.	Ledbetter, W. H.	Sweeting, C. E.
Barnard, J. H.	George, H.	Legarè, A. B.	Woods, R. H.
Brady, C. T.	Gray, W. T.	Mitchell, S. Z.	

*Cadet-Midshipmen, Second Class.*

Beecher, W. A.	Hoggatt, W. B.	Macpherson, V.	Sparling, F. H.
Bush, W. W.	Johnston, W.	McCreary, W.	Wirt, W. E.
Harrell, J. R.	Jones, H. P., jr.	Plunkett, C. P.	

*Cadet-Midshipmen, Third Class.*

Crisfield, J. A. P.	Ferriss, L. D.	Raichle, F. G.	Wood, J. W.
Corpening, C. M.	Gilmer, W. W.	Sargent, F. H.	Wright, B.
DeKrafft, J. C. P.	McGuinness, J. P.	Tennant, G. B.	
Edgar, W. A.	Kittrell, J. W.	Thompson, A.	

*Cadet-Midshipmen, Fourth Class.*

Beckkham, R. W.	Cooper, G. F.	Johnson, E. V.	Wood, H. D.
Biddle, J. M.	Francis, W. C.	Treadway, H. B.	
Breed, G.	Hawkes, C. E.	Winram, S. B.	

## U. S. PRACTICE-STEAMER MAYFLOWER.

LIEUTENANT-COMMANDER J. E. CRAIG, *Commanding.*LIEUTENANT J. G. EATON, *Executive Officer.*

PASSED ASSISTANT SURGEON HOWARD SMITH.

PASSED ASSISTANT ENGINEER R. W. MILLIGAN.

PASSED ASSISTANT ENGINEER G. B. RANSOM.

ASSISTANT PAYMASTER M. R. CALVERT.

Midshipmen W. H. Emerson,	L. Duncan,	} <i>Watch Officers.</i>
J. H. Rohrbacher,	H. C. Poundstone,	

*Cadet-Engineers, First Class.*

Aldrich, W. S.	Glascoek, E. S.	Lawrance, W. H.	Shock, T. A. W.
Armistead, S. W.	Gross, C. J.	Littlehales, G. W.	Webster, C. F.
Ellinger, J.	Halstead, A. S.	Palmer, J. E.	Zimmell, G. F.

*Cadet-Engineers, Second Class.*

Baron, C. C.	Dargan, M.	Field, H. A.	Mathews, A. C.
Biddle, A. P.	Davis, E.	Hill, F. K.	Parmenter, H. E.
Crisp, R. O.	Fahs, C. M.	Jones, H. W.	Pattison, T. P.

## U. S. PRACTICE-STEAMER STANDISH.

LIEUTENANT-COMMANDER C. M. THOMAS, *Commanding.*LIEUTENANT E. DE F. HEALD, *Executive Officer.*

PASSED ASSISTANT SURGEON RICHARD ASHBRIDGE.

PASSED ASSISTANT ENGINEER A. M. MATTICE.

PASSED ASSISTANT ENGINEER A. B. CANAGA.

ASSISTANT PAYMASTER E. B. WEBSTER.

Midshipmen M. C. Gorgas,	F. J. Haeseler,	} <i>Watch Officers.</i>
E. F. Leiper,	Edward Simpson.	

*Cadet-Engineers, First Class.*

Baxter, W. J.	Dyson, C. W.	Field, H. A.	Quinby, I. H.
Carswell, W. B.	Eaton, E. P.	Gillis, H. A.	Ryan, P. J.
Darrah, W. F.	Ellicott, J. M.	Herbert, W. C.	Woodruff, C. E.

*Cadet-Engineers, Second Class.*

Capps, W. L.	Keilholtz, P. O.	McCay, H. R.	Starr, J. B.
Hewes, C. H.	Knepper, C. M.	Orr, R. K.	Werntz, R. L.
Hughes, A. L.	Loomis, F. J.	Richardson, T. R.	Whittlesey, H. H.
Hulme, W. O.			

CADET-ENGINEERS OF THE THIRD CLASS QUARTERED ON BOARD THE UNITED STATES  
SHIP SANTEE, UNDER PRACTICAL INSTRUCTION IN THE MACHINE SHOP.

Bispham, H. A.	Fenton, T. C.	Shields, W.
Bootes, J. T.	Joynes, W. W.	Stanworth, C. S.
Boyd, H. L.	Kline, G. W.	Stebbins, C. W.
Chase, V. O.	McCormick, C. M.	Strauss, J.
Culver, W. W.	McKay, W.	Tawresey, J. G.
Dashiell, J. M.	Miller, W. G.	Taylor, D. W.
Dieffenbach, A. C.	Mulford, H. B.	Ueberroth, P. H.
Evans, G. R.	Rust, A.	Warfield, L. E.

## SYNOPSIS OF THE CRUISE.

The *Constellation* went into commission June 1, and received the crew on board June 7. The Cadets embarked June 10.

On June 22 got under way and beat down the bay. On June 26 anchored off York River and received stores and provisions, and on the 29th went to sea.

After passing the Capes a cruising ground was selected between the Gulf-Stream and the New Jersey coast, when the exercises, according to routine, were carried out.

On July 14, finding the rudder to be in bad condition, stood for New York: arrived on July 17 and anchored off Staten Island.



On July 21 went to navy yard where the ship was docked, the rudder repaired, and the bottom cleaned.

While in New York the cadets of the *Constellation* and *Dale*, through the kindness of Mr. R. M. Thompson, visited the copper smelting works at Bergen Point, N. J.

Sailed from New York on August 3, and after a cruise of two weeks to the southward of Long Island, passed the Capes of Virginia on the 19th of August, and anchored off York River.

Arrived at Annapolis on August 27, and was put out of commission on September 1.

While at sea and during the stay of the *Constellation* at New York the prescribed routine was carried out.

The *Dale* was put in commission June 1, and the Cadets embarked June 10.

Sailed from Annapolis June 22, and went to sea from Hampton Roads June 28.

Passed in sight of Montauk Point, Block Island, Gay Head Light, and Nantucket Shoal Light Vessel; stood eastward until south of Cape Sable, Nova Scotia; thence southward across the Gulf-Stream to a point in latitude  $35^{\circ} 02' N.$ , longitude  $61^{\circ} 44' W.$ , thence westward to latitude  $35^{\circ} 25' N.$ , longitude  $70^{\circ} 33' W.$ , recrossed the Gulf-Stream and arrived at New York on July 22, 1882.

On July 4, the ship experienced a moderate gale from northeast, accompanied by a very heavy sea, and on the two following days passed through a heavy gale from the southward and westward. On the afternoon of July 5, the ship was hove-to under close-reefed main-topsail and storm-sails, under which she rode very well in a heavy sea. During the first of these gales, the cutwater was badly broken and the bob-stay bolts and straps were loosened by the pitching of the ship.

As soon as the weather permitted, the bowsprit was secured with a part of the stream chain, which stood well in all weather during the remainder of the cruise and through a moderate gale when crossing the Gulf-Stream eastward of Cape Hatteras.

Sailed from New York August 3, cruised during two weeks between Montauk Point and Nantucket Shoals, arrived off Fortress Monroe on the 21st, and reached Annapolis on August 28, and was put out of commission September 1.

While at sea and during the stay of the *Dale*, at New York the prescribed routine was carried out.

The *Mayflower* was put in commission June 1, and the Cadets embarked June 10. Sailed from Annapolis for the navy yard at Norfolk June 19, arriving the next day, when work in the shops was begun.

June 24, left Norfolk with stores for the *Constellation* and *Dale*, returning to the navy yard on the 29th.

Sailed for Boston July 20, arriving on the 23d.

At both the Norfolk and Boston navy yards the Cadets worked daily in the different shops, under the supervision of the engineer officers of the *Mayflower*, old material being reworked for practical instruction, and work being done for different vessels in commission.

While at Boston the Cadets visited the works of the Bridgewater Iron Company.

Each Cadet was required to keep a journal and sketch-book of the work done. While under steam the Cadets did duty in the fire-room and engine-room in various capacities.

On August 22 the *Mayflower* sailed from Boston for Annapolis; on August 23 some of the tubes of the port boiler blew out, making it necessary to haul fires under that boiler. Anchored at Napeague Bay for repairs until the 25th.

Entered Chesapeake Bay on the 28th and anchored at Hampton Roads.

Arrived at Annapolis August 30 and was put out of commission September 1, 1882.

The *Standish* was put in commission June 1, and the Cadets embarked June 10.

On June 19 sailed from Annapolis for the navy yard at Washington, arriving the next day.

While at the yard the Cadets worked daily in the machine shops under the supervision

of the engineer officers attached to the Standish, repairing the machinery of the vessel, drawing designs for making the patterns and casting the necessary parts.

On July 20 left Washington for Annapolis to bring a steam launch and engineer stores to the Academy, arriving the next morning, and at 4 p. m. of the 21st sailed for New York, arriving at the navy yard on the afternoon of the 23d.

At this yard work in the shops was continued on the machinery of the Standish, and in addition the Cadets prepared and placed in running order and used the machines and tools at the yard which were placed at their disposal.

Each Cadet was required to keep a journal and sketch-book fully describing the work in progress. While under steam the Cadets were divided into three watches for duty in the fire and engine rooms, as engineer officers, petty officers, and firemen.

While in New York visited the Continental Works, Brooklyn; the Morgan Iron Works and Delamater's, in New York city, spending one day at each.

Sailed from New York on August 25, arriving at Annapolis on the 27th.

Was put out of commission on the 1st of September, 1882.



# TABLE OF COEFFICIENTS.

Department.	Subject.	Fourth class.	Third class.	Second class.	First class.	Graduating Maxima.	Maxima for final Graduation.
Seamanship, Naval Tactics, and Naval Construction.	Seamanship . . . . .	2	6	12	48		
	Seamanship and Naval Tactics . . . . .	6	12	48			
	Ship-Building . . . . .	5	10	20	100		
	Practice Cruise . . . . .	2	3	5	116		
Ordnance and Gunnery.	Aptitude . . . . .						12
	Ordnance Instructions and Infantry Tactics . . . . .	3	6	12	48		
	Mechanism and Construction of Ordnance . . . . .	4	8	16	64		
Mathematics.	Theory and practice of Gunnery. Torpedoes . . . . .				14	84	48
	Algebra and Geometry . . . . .	7	14	28	112		
	First term, third class . . . . .	9	18	36	144		
Steam Engineering.	Second term, third class . . . . .	9	18	36	100		
	Marine Engines and Boilers . . . . .	4	8	16	56	48	
Astronomy, Navigation, and Surveying.	Astronomy and Surveying . . . . .	6	12	24	96		
	Theory of Navigation . . . . .				6		
	Practical Navigation and Theory of Compass Deviations . . . . .				7		48
	Practical Navigation on Practice Cruise . . . . .				3	88	
Physics and Chemistry	Chemistry . . . . .	6	12	24	96		
	Chemistry and Physics . . . . .	4	8	16	64		
	Heat . . . . .				4		
	Electricity and Magnetism . . . . .				6		
Mechanics and Applied Mathematics.	Physical Measurements . . . . .				3	92	
	Integral Calculus . . . . .	5	10	20	80		
	Mechanics and Applied Mathematics . . . . .	6	12	24	96		
English Studies, History and Law.	Naval Architecture . . . . .				4	80	
	English and History . . . . .	6	12	24	96		
	History and English Studies . . . . .	4	8	16	64		
Modern Languages.	International Law . . . . .				3	72	
	French . . . . .	4	8	16	64		24
Drawing.	Spanish . . . . .				4	48	
	Drawing . . . . .	2	4	8	24		
Maximum for each class . . . . .		76	152	228	304	760	240
(Exclusive of advanced courses.)							

## MERIT-ROLLS FOR 1881-82.

*Merit-rolls, made out annually for each class, show the proficiency of the cadets in each branch of study. The numbers given in the preceding table, showing the relative weight of the different branches, are used as coefficients; the final mark in each branch (on a scale of 4) being multiplied by the number assigned to that branch. The sum of the products, after making deductions for conduct, is the final mark of the Cadet for the year.*

*In the case of cadets who take an advanced course in any branch, the final mark in that branch is determined by adding to the final mark received in the required course one-fifth of the amount by which the final mark in the advanced course exceeds 2.50.*

*In the graduating merit-roll, the final mark for the course is determined by the sum of the four yearly marks.*

*“Cadets who attain 85 per cent. of the multiple in any year shall be distinguished by a star affixed to their names on the merit-rolls.”—(Regulations U. S. Naval Academy, § 150.)*

*Cadets whose names are marked thus (†) were found deficient, but were allowed to continue in their classes on condition of passing at a re-examination.*

*Those marked thus ( $\frac{+}{4}$ ) were found deficient, and turned back, to recommence the studies of their respective classes.*

*Those marked ( $\frac{2}{2}$ ) were found deficient, and recommended to be dropped.*

*(a) denotes absence from examination.*

CADET-MIDSHIPMEN.  
*Merit-roll—class of 1880 (56 members). Final examination, June, 1882.*

Order of merit.	Name.	Seamanship.		Naval tactics.		Gunnery.		Navigation.		Steam-engineering.		French.		Aggregate for four years.		Final aggregate.
		48	12	48	12	48	12	48	12	48	12	24	12	240	760	1000
	Maxima for this class.....															
*1	Philip R. Alger.....	40.44	9.57	42.24	10.26	43.56	39.60	19.08	10.26	39.60	10.26	19.08	10.26	204.75	691.33	806.08
*2	Herman G. Dresel.....	33.72	8.40	43.02	11.07	41.16	38.52	20.52	11.07	38.52	11.07	20.52	11.07	197.31	682.80	880.11
3	Harry Phelps.....	40.08	10.80	43.32	10.47	44.76	35.52	20.46	10.47	35.52	10.47	20.46	10.47	205.50	638.06	843.56
4	Patrick W. Hourigan.....	42.00	9.75	41.76	10.50	37.56	37.66	19.62	10.50	37.66	10.50	19.62	10.50	198.87	629.17	828.04
5	Luman S. Norton.....	37.08	7.86	35.78	7.86	42.00	33.96	17.94	7.86	33.96	7.86	17.94	7.86	182.58	641.30	823.88
6	John B. Bernadou.....	35.78	11.52	38.40	10.50	33.00	31.80	21.60	10.50	31.80	10.50	21.60	10.50	182.70	638.01	820.71
7	William H. Wolfersberger.....	35.40	9.48	39.12	11.40	41.76	39.12	16.38	11.40	39.12	11.40	16.38	11.40	192.66	620.05	812.71
8	Homer C. Poundstone.....	43.32	9.69	36.84	10.80	43.20	39.24	19.62	10.80	39.24	10.80	19.62	10.80	202.71	607.54	810.25
9	Albert A. Ackerman.....	34.92	10.68	39.36	8.22	35.40	30.12	16.08	8.22	30.12	8.22	16.08	8.22	174.78	621.65	796.43
10	Albert P. Niblack.....	36.12	8.88	40.08	10.92	42.00	33.36	17.04	10.92	33.36	10.92	17.04	10.92	188.40	596.18	784.58
11	Ernest Wilkinson.....	35.28	10.08	36.12	10.32	30.36	36.72	19.92	10.32	36.72	10.32	19.92	10.32	178.80	593.07	771.87
12	Porter D. Haskell.....	31.56	10.23	32.16	8.22	40.20	31.92	19.08	8.22	31.92	8.22	19.08	8.22	173.37	598.13	771.50
13	William Truxtun.....	36.60	10.17	36.96	11.16	36.96	34.80	16.02	11.16	34.80	11.16	16.02	11.16	179.87	589.10	768.97
14	Stokely Morgan.....	30.60	9.30	40.92	8.16	42.60	31.08	17.40	8.16	31.08	8.16	17.40	8.16	180.06	587.97	768.63
15	Louis Duncan.....	40.80	9.45	35.28	11.10	40.20	39.60	17.28	11.10	39.60	11.10	17.28	11.10	193.71	573.95	767.66
16	William H. Emerson.....	36.84	8.67	31.92	11.22	42.00	36.00	15.78	11.22	36.00	11.22	15.78	11.22	182.43	577.61	760.04
17	George E. West.....	35.76	8.52	34.20	7.86	34.80	33.52	17.82	7.86	33.52	7.86	17.82	7.86	174.48	582.50	756.98
18	Francis J. Haeseler.....	42.72	9.69	33.96	10.77	39.00	33.84	15.78	10.77	33.84	10.77	15.78	10.77	185.76	565.29	751.65
19	Thomas A. Parke.....	37.56	7.62	35.40	8.10	33.36	30.00	19.44	8.10	30.00	8.10	19.44	8.10	171.48	576.53	748.01
20	Edward Simpson.....	37.08	10.11	38.16	10.35	39.60	32.64	17.22	10.35	32.64	10.35	17.22	10.35	185.16	560.93	746.09
21	William C. P. Muir.....	33.00	10.77	32.76	9.15	36.60	30.00	18.42	9.15	30.00	9.15	18.42	9.15	170.70	570.38	741.08
22	Joseph Beale.....	40.56	8.13	36.60	9.00	30.60	32.28	19.80	9.00	32.28	9.00	19.80	9.00	176.97	561.31	738.28
23	George S. Dillman.....	32.52	10.65	39.00	5.55	37.56	37.20	17.22	5.55	37.20	5.55	17.22	5.55	179.70	556.36	736.06
24	John S. Watters.....	35.76	9.21	27.72	9.45	27.60	30.00	17.76	9.45	30.00	9.45	17.76	9.45	157.50	577.70	735.20

	Edward F. Lieper	8.49	38.88	36.00	34.20	16.68	7.26	182.79	551.20	733.99
25	Joseph H. Rohrbacher	33.36	32.52	35.40	33.72	17.82	10.17	170.85	562.75	733.60
26	Maunung K. Eyre	36.48	38.76	37.80	36.24	19.02	8.70	182.64	549.10	731.74
27	James C. Drake	31.08	33.84	38.76	33.48	16.02	6.75	168.06	559.97	728.03
28	William S. Sims	32.16	36.24	33.00	38.40	17.22	8.91	174.06	552.55	726.61
29	Miles C. Gorgas	34.80	37.44	35.76	31.20	20.40	9.51	179.22	547.05	726.27
30	Frank W. Bowdon	38.16	30.48	34.56	31.56	18.24	8.25	171.90	554.31	726.21
31	Louis S. Van Duzer	28.20	33.84	33.36	31.92	17.22	8.91	162.45	563.20	725.65
32	Wilson W. Buchanan	37.44	30.48	33.96	31.08	15.60	9.15	169.11	551.87	720.98
33	Augustus N. Mayer	30.24	32.88	37.56	28.68	15.66	8.52	163.83	553.90	717.73
34	Fred. R. Brainerd	30.36	34.08	33.60	28.92	15.78	9.00	162.00	550.32	712.32
35	William E. Safford	31.08	30.00	28.56	28.80	22.80	10.50	162.69	549.44	712.13
36	Francis R. Wall	32.64	33.96	31.80	24.60	17.22	7.65	155.61	544.14	699.75
37	Thomas Worthington	32.88	34.56	28.56	30.12	17.22	10.92	162.43	529.41	691.89
38	William J. Maxwell	34.08	30.00	30.96	30.00	16.86	10.35	161.88	529.30	691.18
39	Gay W. Brown	35.52	32.04	37.80	32.76	15.00	9.75	172.05	518.33	690.38
40	Franklin Swift	31.92	37.56	36.00	24.60	16.02	9.60	163.83	524.67	688.50
41	John F. Luby	37.20	37.56	33.00	31.68	16.20	7.80	170.58	512.46	683.04
42	Charles H. Hill	32.28	31.20	32.40	30.84	15.60	8.16	160.32	522.23	682.55
43	Walter G. Richardson	33.24	36.84	35.40	30.00	19.86	7.50	170.34	510.19	680.53
44	Lewis J. Clark	31.56	31.20	33.00	31.44	15.90	6.27	159.93	510.01	669.94
45	Edward Brinley	33.48	27.36	37.80	28.20	18.48	8.67	163.02	500.39	663.41
46	Edwin W. Nash	32.04	26.16	34.80	28.56	15.00	5.01	149.16	506.73	655.89
47	James S. Brown	27.96	21.72	27.60	24.96	15.42	9.51	136.83	502.14	638.97
48	Fitz A. Huntton	32.52	27.48	35.40	26.88	15.00	5.25	152.13	526.90	679.03
†	Henry B. Ashmore	31.08	24.12	30.96	33.00	17.88	6.00	154.70	519.15	673.85
†	Theodore G. Dewey	32.76	30.00	26.76	24.96	15.00	10.80	150.39	516.95	667.34
†	George R. French	31.08	30.00	27.36	23.04	16.02	8.76	145.77	521.13	666.90
†	James Gray	31.08	28.32	23.40	27.24	18.60	9.75	147.36	517.64	665.00
§	Ambrose Crutcher	30.00	34.20	24.00	30.00	16.38	7.50	148.95	515.76	664.71
§	Hugh Rodman	28.56	29.16	33.00	30.00	16.02	4.92	153.21	499.04	652.25
§	Howard H. Bullitt	30.00	30.24	25.80	28.92	15.42	8.55	149.37	489.93	659.30
§	Horatio L. Fillebrown	32.04	30.60	30.96	25.56	15.78	8.25	158.58	532.09	690.67

<sup>b</sup> Recommended to be dropped; re-examined and passed.

<sup>c</sup> Found deficient; resigned before re-examination.

## CADET-MIDSHIPMEN.

*Merit-roll of first class (37 members), annual examination, June, 1882, and general merit-roll for four years.*

Order of general merit.	Name.	Seamanship.		Ship-building.		Ordnance and armor.		Marine engines.		Theoretical navigation.		Practical navigation and surveying.		Electricity.		Naval architecture (elective).		Public law.		French and Spanish.		Conduct.		Aggregate for fourth year.		Aggregate for third year.		Aggregate for second year.		Aggregate for first year.		General aggregate for four years.
		64	16	56	52	32	36	24	3.60	12	12													304	228	152	76	760				
	Maxima .....																															
1	Lewis Nixon .....	57.12	14.20	52.64	46.28	28.08	32.13	22.02	2.88	10.74	10.14	1.35	274.88	210.15	139.99	68.97															693.99	
2	Spencer S. Wood .....	60.32	14.68	52.08	38.74	25.68	28.62	18.36	1.80	9.87	9.87	0.21	259.81	194.14	129.19	61.40															614.54	
3	John T. Arnold .....	53.44	12.16	47.32	44.20	27.28	29.70	19.14	1.92	9.36	8.85	3.60	249.77	189.67	125.45	65.25															630.14	
4	William B. Fletcher .....	57.12	15.16	48.02	42.38	25.76	28.89	19.44	.....	9.96	9.51	1.23	255.01	189.32	119.31	63.55															627.19	
5	Edson W. Sutphen .....	57.60	14.32	48.86	42.90	24.08	23.89	19.92	.....	9.36	8.94	1.83	253.04	184.89	121.22	56.85															616.00	
6	Louis S. Bennett .....	48.32	12.84	47.18	40.56	24.96	29.97	17.16	.....	10.95	10.56	2.43	240.07	182.44	122.07	63.24															609.82	
7	Marbury Johnston .....	52.04	11.56	47.60	39.00	25.92	30.15	18.42	.....	9.39	9.15	2.25	239.98	177.38	118.60	58.29															594.25	
8	William B. Whittelsey .....	53.60	12.72	47.32	40.43	23.84	26.64	18.24	.....	9.39	8.52	0.96	239.74	176.98	113.54	56.04															586.30	
9	Jacob G. McWhorter .....	52.16	13.16	44.24	40.69	25.12	27.63	18.24	.....	8.88	8.88	2.13	236.87	174.77	112.34	62.26															586.24	
10	James G. Doyle .....	55.68	12.68	44.52	41.21	24.40	26.82	16.98	.....	9.03	9.27	2.31	238.28	172.52	112.45	58.13															581.38	
11	Ledru R. Savage .....	49.28	12.76	48.72	41.99	25.44	28.98	19.32	.....	10.11	10.38	1.53	245.45	169.14	109.41	54.41															578.41	
12	Joseph L. Jayne .....	52.32	12.84	45.22	36.01	24.40	29.16	17.10	.....	8.79	8.67	1.26	233.25	176.30	110.62	56.95															577.12	
13	Finley A. McNutt .....	50.24	13.12	47.18	40.56	25.36	29.97	17.52	.....	10.47	9.69	1.86	242.25	158.61	113.47	62.26															576.59	
14	William B. Duncan .....	60.96	13.24	48.30	39.26	22.16	26.64	16.08	.....	9.33	11.61	1.20	246.38	166.27	108.25	52.05															572.95	
15	Thomas C. Prince .....	51.20	12.04	43.12	40.04	22.48	28.26	15.78	.....	9.66	10.95	0.90	232.63	171.03	112.05	55.08															570.79	
16	John J. Blandin .....	49.44	11.56	43.12	39.52	22.00	26.28	17.40	.....	10.08	10.59	1.44	228.55	170.09	112.87	54.76															566.27	
17	William L. Howard .....	49.76	11.04	44.80	35.62	20.96	26.37	16.14	.....	9.51	10.32	1.95	221.57	164.91	114.66	62.14															564.28	
18	Wiley R. M. Field .....	50.88	11.84	40.04	36.14	22.61	23.40	15.18	.....	8.97	9.21	3.93	214.37	168.89	120.30	60.64															564.20	
19	Edwin A. Anderson .....	50.88	12.56	47.04	36.66	21.52	25.65	17.16	.....	9.84	9.12	1.38	229.05	166.63	111.89	55.75															563.32	
20	Lorenzo Sample .....	49.12	11.24	43.54	35.49	24.16	26.10	17.16	.....	9.30	10.38	2.88	223.61	164.80	116.23	57.43															562.07	
21	Albert L. Key .....	46.40	11.72	44.38	37.31	23.36	26.19	18.18	.....	10.56	8.64	3.21	223.53	165.23	109.04	60.17															557.97	



22	Walter T. Paine .....	46.56	10.28	41.72	33.93	24.72	27.45	15.12	.....	9.24	10.56	1.44	218.14	163.03	112.18	53.28	556.63
23	Henry A. Horst .....	47.20	11.60	44.24	36.14	21.04	24.93	15.48	.....	9.69	10.65	1.56	219.41	160.30	117.88	57.20	554.79
24	Clarence Martin .....	52.48	10.56	43.68	36.27	22.24	25.29	15.00	.....	10.14	9.57	1.95	223.28	152.53	108.34	59.04	554.09
25	William J. Grambs .....	46.08	12.08	45.78	38.35	23.68	27.72	16.26	.....	9.84	8.70	2.25	226.24	158.83	110.08	58.34	553.49
26	John M. Poyer .....	49.44	10.84	44.52	34.97	22.24	25.02	16.38	.....	10.05	8.82	1.89	220.39	162.03	106.62	62.32	551.36
27	Herman H. Kenkel .....	51.20	11.28	43.12	36.14	21.04	26.37	16.62	.....	9.60	8.25	2.40	221.22	157.65	113.70	58.17	550.74
28	Harold H. Eames .....	53.44	14.20	41.72	37.05	22.16	25.29	16.56	.....	8.97	9.45	4.23	224.61	160.32	106.25	58.35	549.53
29	Philo N. McGiffin .....	51.52	13.12	43.12	40.43	21.60	25.83	16.62	.....	9.45	8.82	2.73	227.78	159.28	97.47	53.83	538.36
30	Nathaniel M. Hubbard .....	51.36	12.64	41.30	36.27	20.56	24.12	15.96	.....	9.42	9.45	3.36	217.72	157.49	103.22	54.31	532.74
31	Lawrence S. Gwyn .....	43.52	12.20	41.30	36.14	22.72	25.02	15.48	.....	8.88	9.60	1.86	213.00	161.20	100.25	53.44	527.89
32	William N. King, jr. ....	46.88	10.56	40.60	33.54	20.08	24.12	15.36	.....	9.72	9.51	3.21	207.16	160.49	112.79	47.34	527.78
33	Felton Parker .....	49.12	12.80	38.50	37.44	20.32	23.67	14.76	.....	9.60	10.86	3.81	213.26	154.55	97.84	55.59	521.24
34	Frederick H. Stahle .....	45.76	10.44	38.92	34.58	20.00	24.39	15.00	.....	9.06	9.30	3.51	203.94	152.16	103.54	58.43	518.07
35	Samuel A. W. Patterson .....	48.80	11.28	40.60	34.32	21.12	24.75	14.58	.....	8.79	8.43	1.98	210.69	155.87	98.03	51.21	515.80
36	George E. Kent .....	45.12	10.56	37.94	33.80	20.64	23.40	15.00	.....	8.46	8.49	2.94	200.47	150.39	101.20	54.32	506.38
37	Hammond Fowler .....	44.48	11.24	39.02	34.32	19.12	24.12	14.16	.....	10.20	8.94	2.94	203.26	150.25	97.47	51.76	502.74

## CADET-MIDSHIPMEN.

Merit-roll of the second class (38 members), annual examination, June, 1882.

Order of annual merit.	Name.	Seamanship.	Naval tactics.	Ordnance instructions and infantry tactics.	Astronomy.	Physics and chemistry.	Light and heat.	Mechanics and calculus.	English and history.	French.	Conduct.	Aggregate.
		40	8	20	24	20	20	56	20	20		228
	Maxima .....											
*1	S. D. Greene, Jr.....	37.70	7.54	18.65	22.08	18.10	17.05	57.54	17.50	17.90	0.75	213.91
*2	G. W. Street .....	37.80	7.80	18.25	21.30	17.30	18.70	59.08	16.25	17.75	0.79	213.44
*3	W. E. Rowman .....	35.80	6.76	17.90	19.50	16.30	16.65	56.56	16.50	16.00	0.73	201.24
*4	C. E. Sweeting .....	35.00	7.38	18.45	19.08	16.45	17.10	55.86	15.20	15.55	2.51	197.56
*5	J. B. Jackson .....	34.30	7.40	17.30	19.32	15.25	15.10	53.90	16.50	16.40	0.49	194.98
*6	R. W. Barkley .....	32.90	7.08	17.70	21.12	16.50	16.85	47.60	17.80	16.75	0.31	193.99
7	A. S. Keith.....	35.70	7.24	17.45	19.26	15.65	15.85	47.32	15.00	16.40	0.87	189.00
8	H. George.....	34.30	6.82	17.60	20.34	15.60	15.75	52.08	14.15	13.70	2.09	188.25
9	B. E. Thurston.....	31.10	7.56	18.25	18.42	15.75	14.90	44.24	16.95	16.25	0.69	182.73
10	R. C. Alexander .....	35.00	7.20	17.60	18.06	15.25	14.35	41.02	15.10	15.35	1.00	177.93
11	F. L. Chapin .....	35.10	6.78	18.40	17.94	14.25	13.75	40.32	15.50	15.40	0.90	176.54
12	G. C. Stout.....	36.20	7.00	18.00	17.40	16.00	15.10	38.22	14.85	13.80	1.18	175.39
13	T. A. Witherspoon.....	34.30	6.74	17.30	19.02	15.00	14.50	38.78	14.45	13.90	0.61	173.98
14	J. H. Barnard .....	35.10	7.28	17.55	18.78	13.65	13.40	37.66	16.60	13.95	0.95	173.02
15	J. A. Jackson .....	30.30	7.10	15.30	18.36	14.65	13.90	40.74	16.60	16.15	2.25	170.85
16	W. A. McGrath.....	33.20	7.00	16.90	17.40	13.55	14.65	41.58	14.25	12.85	1.35	170.03
17	R. T. Frazier .....	31.80	6.32	16.15	17.40	14.30	14.20	41.72	14.10	15.05	2.20	168.84
18	C. T. Brady .....	31.90	5.82	16.10	17.46	13.70	13.40	40.74	14.15	15.80	1.20	167.87
19	T. H. Gignilliat .....	28.50	6.60	15.25	17.76	14.40	15.40	41.30	15.50	14.05	1.09	167.67
20	T. V. Toney .....	34.50	6.48	16.65	16.56	13.15	13.80	36.54	16.25	14.45	1.01	166.87
21	T. S. O'Leary.....	31.40	7.28	16.65	17.76	14.05	13.30	36.68	15.90	14.70	0.90	166.82
22	R. L. Lerch.....	30.70	6.76	16.05	17.76	14.15	13.65	37.52	14.35	17.10	1.39	166.65



23	A. P. Agee .....	30.80	6.36	16.40	17.58	13.45	13.65	40.60	14.85	14.30	1.59	165.40
24	H. C. Pettit .....	30.70	6.08	15.35	16.92	13.20	12.95	39.76	17.00	13.70	1.25	165.01
25	S. Z. Mitchell .....	33.00	6.74	15.65	16.14	12.80	13.25	38.08	14.55	16.10	1.42	164.89
26	P. H. Philbin .....	31.70	6.88	15.70	16.80	13.35	13.95	38.50	13.60	13.55	0.82	163.21
27	F. R. Colvin .....	30.60	5.90	13.60	17.46	14.10	13.20	37.52	14.10	14.90	0.68	160.70
28	E. B. Weeks .....	28.40	6.18	14.95	16.50	13.40	12.85	36.82	14.55	15.25	1.74	157.16
29	H. H. Balthis .....	30.80	6.22	14.00	15.78	13.00	14.00	36.68	13.55	13.00	0.36	156.67
30	E. W. Dalrymple .....	27.40	6.38	14.35	17.16	13.65	13.10	37.52	14.50	14.15	1.91	156.30
31	G. M. von Schrader .....	31.10	6.42	15.80	15.48	12.80	13.25	35.28	13.45	13.15	1.53	155.20
32	W. J. Wilson .....	29.40	5.96	14.45	15.96	13.75	13.05	36.54	14.10	12.70	1.31	154.60
33	W. H. Ledbetter .....	27.80	5.18	15.35	16.02	12.50	14.10	35.70	15.10	13.10	1.03	153.82
34	W. T. Gray .....	27.70	6.16	14.70	16.38	11.75	12.80	36.40	13.20	13.35	1.23	151.21
†	R. H. Woods .....	27.80	6.30	15.55	14.94	14.00	13.30	35.14	13.05	15.40	0.64	154.84
†	A. Dovalé .....	29.40	5.78	14.90	16.98	12.85	12.30	35.84	12.90	12.90	1.53	152.32
†	A. B. Legaré .....	31.90	6.42	15.70	15.66	9.30	11.70	36.12	13.90	12.85	1.30	152.25
†	T. B. Smith .....	26.10	5.88	14.90	15.42	13.05	11.70	35.00	13.30	13.25	2.47	146.13

## CADET-MIDSHIPMEN.

*Merit-roll of third class (36 members), annual examination, June, 1882.*

Order of annual merit.	Name.	Trigonometry.	Analytical geometry.	Descriptive geometry.	Physics and chemistry.	History and rhetoric.	French.	Drawing.	Conduct.	Aggregate.
	Maxima .....	32	28	16	24	24	20	8		152
*1	F. E. Curtis .....	26.40	24.71	14.44	20.88	21.84	17.65	6.98	0.47	132.43
2	W. B. Hoggatt .....	27.28	23.52	13.68	21.00	21.54	15.90	6.48	0.29	129.13
3	C. S. Williams .....	26.96	21.98	13.76	19.50	21.30	15.60	6.38	0.20	125.28
4	A. M. Beecher .....	26.32	22.40	14.24	20.46	19.50	13.45	6.88	0.71	122.50
5	R. Welles, jr .....	26.80	22.40	13.96	19.08	18.90	14.05	7.14	0.44	121.89
6	N. S. Moseley .....	25.60	20.79	12.96	19.80	21.06	15.75	6.84	1.36	121.44
7	H. McNulta .....	25.20	20.93	13.64	19.80	19.26	16.00	6.70	0.90	120.63
8	T. H. Leary .....	26.64	21.42	13.28	19.14	19.20	14.35	5.84	0.24	119.63
9	J. D. McDonald .....	24.40	21.49	12.76	19.26	19.14	14.75	5.62	0.43	116.99
10	W. McCreary .....	24.08	20.93	12.20	18.12	21.12	13.95	6.04	0.82	115.62
11	C. W. Hazeltine .....	23.76	19.04	12.32	18.30	21.12	15.60	5.80	0.73	115.23
12	H. P. Jones, jr .....	24.16	19.88	12.20	17.64	19.68	16.50	5.68	0.76	114.98
13	I. K. Seymour .....	24.80	18.27	11.96	19.74	19.50	15.20	5.78	0.28	114.97
14	D. F. Terrell .....	23.52	20.30	11.64	18.84	20.04	15.05	6.08	0.56	114.91
15	W. R. Shoemaker .....	24.08	19.60	12.68	17.64	20.10	14.25	6.94	0.78	114.51
16	L. H. Jastremski .....	24.40	19.67	11.64	18.18	17.70	16.20	5.72	0.87	112.64
17	C. P. Plunkett .....	25.36	20.86	12.72	16.80	17.40	13.15	6.86	1.31	111.84
18	C. H. Hayes .....	23.28	18.69	12.92	17.04	19.02	13.70	7.24	0.31	111.53
19	J. R. Harrell .....	24.64	19.39	13.24	16.80	18.18	13.70	6.52	0.92	111.55
20	W. W. Bush, jr .....	24.16	21.14	11.28	16.74	17.52	13.50	6.20	1.08	109.46
21	W. E. Cook .....	24.08	17.85	11.04	17.16	17.58	15.65	6.14	1.32	108.18
22	J. W. Maxey .....	23.52	19.32	10.40	18.72	18.24	13.35	5.52	1.47	107.69
23	J. S. McKean .....	21.52	19.18	10.88	17.34	18.96	14.95	5.70	1.25	107.28
24	W. Johnston .....	20.64	19.46	11.64	15.84	16.44	17.40	6.56	0.73	107.25
25	S. F. Smith .....	22.24	18.48	12.12	17.10	18.06	13.30	6.48	0.80	106.98
26	V. Macpherson .....	23.36	19.04	10.60	16.86	18.06	12.55	5.14	1.00	104.61
27	W. A. O'Malley .....	22.24	17.92	11.80	16.20	16.80	12.50	6.82	0.48	103.80
28	W. E. Wirt .....	21.84	17.50	10.92	16.98	16.32	12.50	6.16	1.04	101.18
29	W. A. Barker .....	20.80	18.27	10.84	15.30	16.32	12.55	6.66	0.91	99.83
30	W. P. Williams .....	21.12	17.50	10.00	15.54	15.48	12.60	6.18	0.55	97.87
†	V. Carter .....	20.32	16.80	11.68	15.96	16.44	12.50	7.04	1.25	99.49
‡	H. Friedlander .....	22.08	16.66	9.08	15.12	16.68	13.80	5.18	1.39	97.21
†	F. H. Sparling .....	20.64	17.64	10.44	14.58	15.48	12.05	5.92	1.61	95.14
§	A. E. McIntire .....	20.64	14.91	9.60	14.58	15.42	12.70	6.46	1.60	92.71
‡	H. H. McCord .....	21.12	14.21	7.84	14.28	15.84	12.60	5.52	1.53	89.88
§	R. R. W. B. Stevens .....	18.64	13.09	7.92	11.58	16.38	14.05	5.98	1.39	86.25

## CADET-MIDSHIPMEN.

*Merit-roll of fourth class (48 members), annual examination, June, 1882.*

Order of annual merit	Name.	Mathematics.	English and history.	French.	Drawing.	Conduct.	Aggregate.
		32	20	12	12		76
*1	Robert L. Russell .....	27.76	17.50	10.80	8.85	0.27	64.64
2	George R. Slocum .....	28.88	17.90	9.30	8.43	0.16	64.35
3	Charles C. Poe .....	26.56	14.90	11.46	10.14	0.26	62.80
4	William W. Gilmer .....	26.96	15.20	9.12	10.95	0.10	62.13
5	James W. Kittrell .....	26.00	17.00	9.75	9.39	0.45	61.69
6	Alexander Thompson .....	26.00	16.90	8.76	10.41	0.48	61.59
7	John P. McGuinness .....	26.08	15.85	8.97	9.75	0.26	60.39
8	James E. Shindel .....	26.24	15.75	9.39	9.39	0.45	60.32
9	Benjamin M. Lombard .....	26.48	16.20	8.22	9.39	0.49	59.80
10	George B. Tennant .....	23.12	16.95	9.33	10.53	0.54	59.39
11	Louis D. Ferriss .....	25.52	14.25	8.70	10.65	0.38	58.74
12	Albert Burnstine .....	25.84	15.40	8.85	8.97	0.49	58.57
13	Robert E. Coontz .....	24.08	17.40	8.46	8.25	0.10	58.09
14	Edward W. Eberle .....	24.08	16.30	8.73	8.94	0.24	57.81
15	Arthur H. Dutton .....	21.92	15.65	9.78	10.56	0.49	57.42
16	John C. Atwood .....	23.60	15.25	8.55	10.41	0.48	57.33
16	Frank G. Raichle .....	24.24	13.80	8.64	11.07	0.42	57.33
18	Thomas B. Slade .....	24.32	14.45	7.74	10.98	0.26	57.23
19	Webster A. Edgar .....	20.72	14.05	12.21	9.51	0.57	55.92
20	John W. Wood .....	21.12	16.30	10.08	8.55	0.39	55.66
21	David S. Nes .....	22.64	13.70	7.89	11.28	0.22	55.29
22	Benjamin Wright .....	21.84	16.15	8.25	9.36	0.34	55.26
23	Frederic H. Sargent .....	21.84	15.05	8.19	10.53	0.43	55.18
24	Charles M. Corpening .....	22.80	14.85	9.78	8.28	0.61	55.10
25	James R. Pugin .....	22.88	14.00	7.98	10.35	0.28	54.93
26	Glennie Tarbox .....	23.60	14.85	8.79	8.79	1.15	54.88
27	James S. Davis .....	23.44	15.00	7.95	8.76	0.35	54.80
28	Edward W. Tilden .....	21.52	15.75	8.46	9.42	0.82	54.33
29	Albert B. Sloan .....	20.72	16.75	8.58	7.98	0.68	53.35
30	Robert B. Howell .....	22.24	15.15	7.56	8.49	0.53	52.91
31	Jason G. Lamison .....	20.24	14.60	9.30	9.66	1.29	52.51
32	Benjamin Jacobs .....	21.52	13.15	9.84	8.01	0.18	52.34
33	Harry D. Clark .....	21.52	14.65	8.43	8.16	0.95	51.81
34	Richard T. Shipley .....	22.24	13.95	8.19	8.28	1.02	51.64
35	John C. P. De. Krafft .....	20.80	13.30	8.22	9.30	0.33	51.29
36	Henry D. Blake .....	20.88	14.25	8.61	8.34	0.96	51.12
37	James A. P. Crisfield .....	20.32	13.65	7.89	9.81	0.98	50.69
†	Samuel E. Pitner .....	23.84	12.40	8.34	9.57	0.14	54.01
§	Leonidas L. Robinson .....	20.48	14.60	7.29	8.10	0.24	50.23
‡	John W. Stearns .....	16.72	13.30	10.11	9.39	0.60	48.92
‡	Jerome Van Keuren .....	19.28	11.35	7.77	10.74	0.25	48.89
§	George S. Pentz .....	20.32	11.10	7.83	9.39	0.82	47.82
§	Robert E. L. Gibson .....	19.84	13.55	7.23	8.34	1.21	47.75
‡	Henry B. Treadway .....	15.44	12.85	8.49	8.40	0.70	44.43
‡	Thomas P. Ledbetter .....	14.24	13.15	8.85	7.59	0.79	43.04
‡	Charles K. Luzenberg .....	12.88	12.00	8.79	7.98	0.67	40.98
§	James J. Livingood .....	15.44	12.20	7.11	7.08	1.14	40.69
§	William S. Scott .....	13.12	11.35	9.21	7.17	1.36	39.49

## CADET-ENGINEERS.

*Merit-roll of the first class (23 members), annual examination, June, 1882, and general merit-roll for four years.*

Order of General merit.	Name.	Ship-building.	Mechanical drawing.	Fabrication.	Designing machinery.	Marine engines.	Boilers.	Electricity.	Physical measurements.	Applied mechanics.	Naval architecture and method of least squares.	Naval architecture (elective).	French and Spanish.	Conduct.	Aggregate for fourth year.	Aggregate for third year.	Aggregate for second year.	Aggregate for first year.	General aggregate for four years.
		16	24	28	44	44	16	24	28	44	24	.....	12	.....	304	228	152	76	760
*1	Maxima.....																		
*2	Emil Theiss.....	14.84	23.22	25.97	40.92	39.93	14.96	21.96	27.65	40.59	23.22	3.60	1.25	2.40	285.71	212.89	142.10	70.03	710.73
*3	Robert W. Gatewood.....	13.84	23.22	25.55	42.68	42.13	14.46	22.14	27.65	42.90	23.58	3.36	10.56	2.67	289.34	211.27	137.54	66.04	704.19
*4	William H. P. Creighton.....	13.12	20.76	25.13	36.19	39.05	14.24	19.56	26.04	36.74	21.18	2.88	11.16	1.02	265.03	201.26	130.51	69.13	665.93
*5	George R. Ferguson.....	13.48	23.58	25.55	40.92	38.28	14.76	19.92	25.55	36.30	21.24	2.64	10.05	0.75	271.52	198.84	129.39	62.62	662.37
6	Peter Miller.....	14.00	20.58	22.61	36.52	40.70	13.76	21.30	24.85	40.81	22.44	3.12	10.17	1.32	269.54	197.94	128.13	63.43	659.04
7	William H. Chambers.....	12.80	21.60	24.36	41.03	37.73	14.20	19.68	26.74	32.45	21.18	.....	10.02	1.86	259.93	191.32	125.94	64.57	641.76
8	James H. Pitts.....	12.60	21.66	23.59	36.96	36.85	13.72	18.72	22.75	32.78	21.30	2.16	10.98	2.07	252.00	192.92	126.71	66.80	638.43
9	Charles E. Rommel.....	13.54	20.34	24.22	35.97	37.62	13.48	18.78	23.45	33.09	19.86	.....	10.71	2.64	249.32	179.39	122.25	62.25	613.21
10	Otto C. Gsantner.....	11.04	21.24	25.55	35.31	33.55	13.36	16.20	26.74	29.92	18.06	.....	10.71	2.64	239.64	177.68	112.03	56.51	585.86
11	Arthur H. Clarke.....	11.76	15.78	21.91	31.46	33.88	10.80	16.38	23.45	32.12	19.92	.....	9.78	2.37	234.87	172.33	116.51	63.42	577.13
12	Joseph H. Pendleton.....	12.60	18.30	23.10	35.97	33.44	13.40	17.52	26.95	27.50	18.18	.....	10.38	1.29	236.05	167.53	109.97	59.22	572.77
13	Harry L. Hawthorne.....	12.36	17.28	21.63	30.25	33.33	11.32	16.74	26.25	30.63	18.78	.....	9.00	2.19	224.78	166.29	114.23	62.71	568.01
14	Clarence C. Willis.....	11.96	18.72	24.29	31.46	32.67	12.28	16.26	25.55	31.46	19.14	.....	9.39	2.61	230.57	166.42	111.18	55.08	563.25
15	Frank H. Conant.....	12.92	16.44	23.24	31.79	30.91	12.12	17.04	18.69	27.83	16.68	.....	9.84	1.83	215.67	167.91	117.12	60.17	560.87
16	Harry G. Leopold.....	10.92	19.98	24.78	34.54	35.20	11.96	16.80	26.74	33.00	19.74	3.36	8.13	3.36	241.79	164.29	102.69	51.63	559.80
17	Robert B. Higgins.....	12.92	19.38	23.31	30.91	32.45	11.76	15.06	27.16	28.60	17.16	.....	9.03	2.19	225.55	166.34	109.17	57.59	558.65
18	Willis B. Day.....	12.12	19.68	24.36	33.33	32.89	12.60	15.24	25.06	28.05	17.10	.....	9.00	1.44	227.99	165.66	112.94	48.91	555.50
19	John C. Leonard.....	12.16	17.28	22.12	29.37	33.22	12.04	16.44	22.75	30.14	18.06	.....	9.66	2.91	220.33	167.19	109.34	56.00	552.86
20	Walter R. Addicks.....	12.60	19.32	23.59	34.54	32.01	12.04	16.98	26.25	29.70	17.88	.....	8.94	1.14	232.71	161.55	103.79	53.37	551.42
21	Charles H. Howland.....	12.20	17.76	21.63	31.68	32.56	11.56	16.68	26.25	29.92	19.02	.....	9.48	2.16	226.58	158.71	106.67	57.58	549.54
22	Ward P. Winchell.....	11.36	19.74	23.87	29.37	29.81	12.08	14.82	25.55	27.61	15.90	.....	8.52	2.01	217.22	157.49	106.94	54.90	536.55
23	Fredrick E. Coley.....	11.00	15.72	21.28	30.69	29.36	10.48	14.58	24.36	28.71	16.26	.....	8.61	3.78	207.72	154.33	99.16	51.85	513.06
1	Andrew McAllister.....	11.12	17.40	22.82	26.07	29.26	10.20	14.76	22.75	25.63	16.08	.....	9.03	2.46	202.66	163.40	99.07	49.45	514.58



Order of annual merit.	Name.	Aggregate.									
		Mechanical drawing.	Fabrication.	Designing machinery.	Astronomy.	Physics and chemistry.	Light and heat.	Mechanics and calculus.	English and history.	French.	Conduct.
		20	24	34	16	26	26	56	20	20	20
	Maxima.....										
*1	Charles Edward Woodruff.....	18.00	20.04	29.52	15.08	18.75	18.50	54.46	15.60	16.00	0.69
*2	Samuel W. Armsstead.....	19.15	20.58	29.68	14.36	16.85	17.50	55.72	15.40	15.65	0.14
*3	William S. Aldrich.....	19.70	21.60	29.44	14.12	16.45	17.60	51.38	14.70	15.20	0.22
*4	William J. Baxter.....	17.95	18.66	28.96	14.12	16.65	17.35	52.36	17.70	15.75	0.44
*5	Charles P. Eaton.....	17.80	18.30	27.28	14.56	17.30	16.95	53.62	14.85	17.50	0.94
6	George W. Littlehales.....	16.60	20.38	27.44	14.48	17.15	15.90	48.16	16.00	16.85	0.17
7	Charles W. Dyson.....	16.90	19.44	28.64	13.80	16.30	16.50	49.84	15.75	15.55	0.78
8	George F. Zinnell.....	16.85	20.52	28.16	12.88	17.00	16.85	46.34	16.00	15.35	0.68
9	John M. Ellicott.....	18.65	20.16	26.88	13.68	15.20	16.20	46.20	15.40	16.45	0.39
10	William F. Darrah.....	16.90	19.80	28.40	13.68	15.65	16.90	44.38	15.10	16.80	0.90
11	Alexander S. Halstead.....	16.55	20.64	27.20	13.12	16.30	15.80	44.38	14.25	15.60	0.86
12	William C. Herbert.....	15.75	19.14	26.96	13.48	14.95	16.05	41.30	14.50	15.65	0.95
13	Charles F. Webster.....	14.95	19.14	25.92	11.24	15.40	15.75	41.72	15.45	15.20	0.81
14	Harry A. Field.....	16.85	19.80	25.36	11.04	13.30	14.75	42.56	13.55	15.15	0.30
15	Julius Ellenger.....	15.50	19.44	23.44	12.20	14.35	14.50	41.44	13.95	14.00	1.36
16	Charles J. Gross.....	17.20	19.98	22.96	12.28	14.75	13.40	39.48	14.05	16.05	0.42
17	Thomas A. W. Shock.....	15.00	19.20	22.00	12.62	14.05	15.25	35.42	14.00	14.15	0.88
18	James E. Palmer.....	17.55	20.82	23.76	11.20	13.60	14.35	37.24	13.10	13.55	0.52
19	William B. Carswell.....	16.35	20.16	22.40	11.56	13.90	13.45	36.40	14.20	14.45	0.55



## CADET-ENGINEERS.

*Merit-roll of the third class (25 members), at the annual examination, June, 1882.*

Order of annual merit.	Name.	Mathematics.	Mechanical drawing and fabrication of machinery.	Physics.	History and rhetoric.	French.	Conduct.	Aggregate.
	Maxima .....	72	20	16	24	20		152
*1	Washington L. Capps .....	67.68	18.30	13.60	21.84	20.00	0.13	141.29
*2	Andrew P. Biddle .....	64.80	16.45	12.52	20.88	20.20	0.80	134.05
*3	Charles H. Hewes .....	67.14	17.70	14.92	19.80	14.25	0.41	133.40
*4	Chester M. Knepper .....	66.24	15.00	14.16	21.54	14.90	0.92	130.92
5	Walter O. Hulme .....	57.60	17.70	13.00	20.70	16.10	0.13	124.97
6	Frank K. Hill .....	59.76	16.60	13.76	19.20	14.75	0.62	123.45
7	Horace A. Field .....	55.08	17.00	13.24	20.64	15.85	0.27	121.54
8	Albert L. Hughes .....	55.26	14.25	12.56	22.08	17.50	0.26	121.39
9	Henry E. Parmenter .....	57.96	18.90	12.92	18.48	13.10	0.15	121.21
10	Robert L. Wernitz .....	54.36	15.50	11.12	21.42	17.50	0.25	119.65
11	Milton Dargan .....	52.74	16.50	12.40	19.98	17.75	0.97	118.40
12	Charles M. Fahs .....	54.18	15.80	11.44	20.22	17.00	0.95	117.69
13	Henry K. McCay .....	54.54	15.05	11.96	19.20	16.30	0.54	116.51
14	Humes H. Whittlesey .....	51.12	16.00	12.12	20.52	15.20	0.20	114.76
15	Edward Davis .....	51.12	18.05	11.32	19.50	15.05	0.64	114.40
16	Frederick J. Loomis .....	50.22	17.15	12.52	19.56	14.00	0.21	113.24
17	Charles C. Baron .....	50.40	17.05	11.52	17.34	17.55	0.96	112.90
18	Horace W. Jones .....	52.92	15.05	11.76	18.66	14.80	0.54	112.65
19	Richard O. Crisp .....	54.72	16.20	11.76	16.62	13.00	1.22	111.08
20	John B. Starr .....	48.06	16.60	10.64	19.98	15.10	0.36	110.02
21	Thomas P. Pattison .....	48.96	15.55	11.32	16.98	14.00	0.24	106.57
22	Pierre O. Keilholtz .....	46.08	17.80	11.20	16.80	13.55	0.58	104.85
23	Albert C. Matthews .....	46.08	16.15	10.96	18.30	14.00	0.64	104.85
24	Robert H. Orr .....	47.34	14.20	11.04	16.68	14.10	0.32	103.04
25	Thornton R. Richardson .....	46.62	14.80	10.68	17.52	13.10	0.35	102.37



## CADET-ENGINEERS.

*Merit-roll of fourth class (25 members), annual examination, June, 1882.*

Order of annual merit.	Name.	Mathematics.	Mechanical drawing and fabrication.	English and history.	French.	Conduct.	Aggregate.
		36	12	20	8		76
*1	David W. Taylor .....	36.09	10.20	18.75	7.42	0.10	72.36
*2	Albert C. Dieffenbach .....	33.12	10.74	17.05	7.12	0.12	67.91
*3	William McKay .....	31.77	10.77	18.40	7.00	0.10	67.84
*4	John G. Tawresey .....	31.77	10.98	17.60	5.90	0.07	66.18
*5	Volney O. Chase .....	31.32	10.11	17.65	6.82	0.24	65.66
6	Walker W. Joynes .....	29.43	10.68	17.20	6.94	0.05	64.20
7	Armistead Rust .....	31.50	10.29	16.10	6.06	0.10	63.85
8	Theodore C. Fenton .....	30.96	10.74	16.10	5.96	0.09	63.67
9	William G. Miller .....	29.07	9.81	15.90	7.28	0.22	61.84
10	Harrison A. Bispham .....	27.00	10.26	17.30	6.64	0.07	61.13
11	Charles S. Stanworth .....	28.62	9.24	14.95	6.54	0.32	59.03
12	Joseph Strauss .....	27.99	10.50	14.30	5.68	0.18	58.29
13	William W. Culver .....	25.38	9.96	16.80	6.06	0.18	58.02
14	Charles M. McCormick .....	27.54	10.35	14.10	6.14	0.11	58.02
15	Harry L. Boyd .....	25.65	10.56	14.65	6.68	0.23	57.31
16	George W. Kline .....	28.35	9.36	13.70	5.72	0.05	57.08
17	Louis E. Warfield .....	26.19	9.81	14.25	5.56	0.34	55.47
18	George R. Evans .....	25.02	9.39	15.25	5.56	0.34	54.88
19	Harry B. Mulford .....	22.86	10.23	15.95	5.74	0.08	54.70
20	Preston H. Uberroth .....	24.93	9.33	14.00	5.62	0.14	53.74
21	James T. Bootes .....	23.22	10.05	14.95	5.90	0.62	53.50
22	Julius M. Dashiell .....	23.58	8.91	14.65	5.80	0.84	52.10
23	William Shields .....	23.85	9.66	13.60	5.14	0.26	51.99
‡	Charles W. Stebbins .....	20.97	9.90	13.50	5.02	0.16	49.23
§	James F. McCusker .....	18.63	8.19	10.55	5.20	1.22	41.35

# REGULATIONS

## GOVERNING

### THE ADMISSION OF CANDIDATES INTO THE NAVAL ACADEMY AS NAVAL CADETS.

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#### NOMINATION.

I. The number of Naval Cadets allowed at the Academy is one for every Member and Delegate of the House of Representatives; one for the District of Columbia; and ten appointed at large. According to the act of Congress approved June 17, 1878, "There shall not be at any time more in said Academy appointed at large than ten."

II. The nomination of candidates for admission from the District of Columbia and at large is made by the President. The nomination of a candidate from any Congressional district or Territory is made on the recommendation of the Member or Delegate from actual residents of his district or Territory.

III. Each year, as soon after the 5th of March as possible, Members and Delegates will be notified in writing of vacancies that may exist in their districts. If such Members or Delegates neglect to recommend candidates by the 1st of July in that year, the Secretary of the Navy is required by law to fill the vacancies existing in districts actually represented in Congress.

IV. The nomination of candidates is made annually between the 5th of March and the 1st of July. Candidates who are nominated in time to enable them to reach the Academy on the 1st of May will receive permission to present themselves at that time to the Superintendent of the Naval Academy, for examination as to their qualifications for admission. Those who are nominated prior to July 1, but not in time to attend the May examination, will be examined on the 22d of September following; and should any candidate fail to report, or be found physically or mentally disqualified for admission in May, the Member or Delegate from whose district he was nominated will be notified to recommend another candidate, who shall be examined on the 22d of September following. When any of the dates assigned for examinations fall on Sunday, the examination will take place on the following Monday.

V. A sound body and healthy constitution, good mental abilities, a natural aptitude for study and habits of application, persistent effort, an obedient and orderly disposition, and correct moral principles and deportment, are so necessary to success in pursuing the course at the Academy, that persons conscious of any deficiency in these respects are earnestly recommended not to subject themselves or their friends to the mortification and disappointment consequent upon failure, by accepting nominations and attempting to enter a service for which they are not fitted.

Students from the Empire of Japan are received for instruction under a resolution of the Senate and House of Representatives of the United States approved July 27, 1868.

#### EXAMINATION.

VI. Each candidate for appointment as Naval Cadet must present to the Academic Board satisfactory testimonials of good moral character, and must certify *on honor* to his precise age, which must be over fourteen and less than eighteen years at the time of the

examination. No candidate will be examined whose age does not fall within the prescribed limits.

VII. Candidates must be physically sound, well formed, and of robust constitution; they will be required to pass a satisfactory examination before a medical board composed of the surgeon of the Naval Academy and two other medical officers to be designated by the Secretary of the Navy.

VIII. Any *one* of the following conditions will be sufficient to cause the rejection of a candidate:

Feeble constitution, inherited or acquired;

Greatly retarded development;

Permanently impaired general health;

Decided cachexia, diathesis, or predisposition;

All chronic diseases or results of injuries that would permanently impair efficiency, viz:

Weak or disordered intellect;

Cutaneous and communicable diseases;

Unnatural curvature of spine, torticollis, or other deformity;

Permanent inefficiency of either of the extremities or articulations from any cause;

Epilepsy or other convulsions within five years;

Impaired vision, chronic disease of the organs of vision, imperfect color sense;

Great hardness of hearing or chronic disease of the ears;

Chronic nasal catarrh, ozæna, polypi, or great enlargement of the tonsils;

Impediments of speech to such an extent as to impair efficiency in the performance of duty;

Chronic diseases of heart or lungs or decided indications of liability to cardiac or pulmonary affections;

Hernia or retention of testes in inguinal cavity;

Sarcocele, hydrocele, stricture, fistula, or hæmorrhoids;

Large varicose veins of lower limbs, scrotum, or cord;

Chronic ulcers.

Attention will also be paid to the stature of the candidate, and no one *manifestly* under size for his age will be received at the Academy. In the case of doubt about the physical condition of the candidate, any marked deviation from the usual standard of height will add materially to the consideration for rejection. Five feet will be the minimum height for the candidate.

The board will exercise a proper discretion in the application of the above conditions to each case, rejecting no candidate who is likely to be efficient in the service and admitting no one who is likely to prove physically inefficient. No candidate rejected by the board will be allowed a re-examination, and when rejected the Department will not reverse the action of the board.

IX. The candidates must pass a satisfactory examination before the Academic Board in reading, writing, spelling, arithmetic, geography, English grammar, history, and algebra.

X. All the examinations, except in reading, will be written. Candidates who fall below the standard will receive a second and final examination in the subjects in which they fail. Deficiency in any one of the subjects at the second examination will be sufficient to insure rejection.

XI. "Candidates rejected at such examinations shall not have the privilege of another examination for admission to the same class unless recommended by the Board of Examiners."—(*Rev. Stat.*, § 1515.)

#### GENERAL CHARACTER OF THE EXAMINATION.

READING.—In *Reading*, candidates must be able to read understandingly, and with proper accent and emphasis.

**WRITING AND ORTHOGRAPHY.**—In *Writing and Orthography*, they must be able to write, from dictation, sentences from standard pieces of English literature, both prose and poetry, sufficient in number to test their qualifications both in hand-writing and orthography.

**XII. ARITHMETIC.**—The candidate will be required—

To express in figures any whole, decimal, or mixed number; to write in words any given number; to perform with facility and accuracy the various operations of addition, subtraction, multiplication, and division of whole numbers whether abstract or compound, and to use with facility the tables of money, weight, and measures in common use, including English money.

To reduce compound numbers from one denomination to another, and to express them as decimals, or fractions of a higher or lower denomination; to state the number of cubic inches in a gallon and the relation between the Troy and Avoirdupois pounds, and to reduce differences of time to differences of longitude and *vice versa*.

To define prime and composite numbers; to give the tests of divisibility by 3, 5, 8, 9, 11, 25, and 125; to resolve numbers into their prime factors, and to find the least common multiple and the greatest common divisor of large as well as of small numbers.

To be familiar with all the processes of common and decimal fractions, and to give clearly the reasons for such processes, and to be able to use the contracted methods of multiplication and division given in the ordinary text-books on Arithmetic.

To define ratio and proportion, and to solve problems in simple and compound proportion.

To solve problems involving the measurement of rectangular surfaces and solids, to find the square and cube roots of numbers and to solve simple problems under percentage, interest, and discount.

The candidates are required to possess such a thorough understanding of all the fundamental operations of Arithmetic as will enable them to apply the various principles to the solution of any complex problem which can be solved by the methods of Arithmetic; in other words, they must possess such a complete knowledge of Arithmetic as will enable them to proceed at once to the higher branches of Mathematics without further study of Arithmetic.

**ALGEBRA.**—The examination in *Algebra* will be elementary in character, and will be limited to questions and problems upon the fundamental rules, factoring, algebraic fractions, and simple equations of one or more unknown quantities; and the questions will be drawn entirely from Ray's *Higher Algebra*, pages 11 to 111.

**GRAMMAR.**—In *English Grammar* candidates must exhibit a familiarity with all the parts of speech and the rules in relation thereto; must be able to parse any ordinary sentence given to them, and generally must understand those portions of the subject usually taught and comprehended under the heads of Orthography, Etymology, Syntax, and Prosody.

The examination will be either written or oral, or partly written and partly oral. The questions will usually be arranged in three divisions. The first division will contain questions somewhat like these:

*Explain the uses of the objective case. What verbs have distinction of voice? Give the possessive plural of sea, valley, basis, stratum, bandit.*

The second division will contain one or more sentences to be parsed, *e. g.*:

*"They were always a strange family; they rarely acted like other people; their hearts were in the right place, but their heads always seemed to be doing anything but what they ought."* Such a sentence must be parsed *fully*, giving the part of speech, and kind, case, voice, mood, tense, number, person, degree of comparison, &c., as the case may be, of each word, and its relation to the other words, thus:

*Strange* is a descriptive adjective, positive degree. It qualifies the noun *family*.

Comparative, *stranger*.

Superlative, *strangest*.



*Acted*, an intransitive verb, regular (or weak) in conjugation, indicative mood, past tense, third person, plural number. Its subject is *they*.

The third division will contain a large number of incorrect sentences to be corrected, thus:

*My brother lives most all of nine miles from Topeka; it's sort of lonesome out there, and I reckon he don't like it much. You see it's considerable of a ways to go, but I'd as lives go as not.* Among these, correct sentences will sometimes be introduced to more thoroughly test the knowledge of the candidate.

Since the school grammars used in different parts of the country vary among themselves in their treatment of certain words, an answer indorsed by any grammar of good repute will be accepted.

**GEOGRAPHY.**—Candidates will be required to pass a satisfactory examination, written or oral, or both, in descriptive geography, particularly of our own country. Questions will be given under the following heads: The definition of latitude and longitude; the zones; the grand divisions of the land and water; the character of coast-lines; the direction and position of important mountain-chains and the locality of the higher peaks; the position and course of the principal rivers, their tributaries, and the bodies of water into which they empty; the position of important seas, bays, gulfs, and arms of the sea; the position of independent States, their boundaries and capital cities; the position and direction of great peninsulas and the situation of important and prominent capes, straits, sounds, channels, and the most important canals; great lakes and inland seas; position and political connection of important islands and colonial possessions; locality of cities of historical, political, or commercial importance (attention is especially called to the rivers and bodies of water on which cities are situated); the course of a vessel in making a voyage between well-known sea-ports.

The candidate's knowledge of the geography of the *United States* cannot be too full or specific on all the points referred to above. Accurate knowledge will also be required of the position of the country with reference to other States, and with reference to latitude and longitude; of the boundaries and relative position of the States and Territories, and of the name and position of their capitals, and of other important cities and towns.

**HISTORY.**—Candidates should be familiar with so much of the History of the *United States* as is contained in the ordinary school histories.

The examination will be either written or oral, or both, and questions of the same general character as the following will be given:

1. Name the earliest European settlements within the present limits of the *United States* and fix their position. When and by whom were these settlements made?
2. Explain the three forms of government in the colonies, royal, proprietary, and charter. Name the colonies that originally existed within the present limits of Massachusetts; of Connecticut. When were these colonies united? What did the colony of Pennsylvania include? When was it divided?
3. State the leading events of the colonial wars, and give the results of each war.
4. What were the remote and the immediate causes of the Revolution? Explain the navigation acts, the stamp act, writs of assistance. Name the principal battles and other leading events, in the wars of the *United States*, giving the names of commanding officers and stating the results of the battles.
5. Give an account of the formation and adoption of the Constitution.
6. Give the names of the Presidents, in order, and the leading events in each administration.

#### ADMISSION.

XIII. Candidates who pass the physical and mental examinations will receive appointments as Naval Cadets, and become inmates of the Academy. Each Cadet will be required to sign articles by which he binds himself to serve in the *United States Navy* eight years (including his time of probation at the *Naval Academy*), unless sooner dis-

charged. The pay of a Naval Cadet is \$500 a year, commencing at the date of his admission.

XIV. Cadets, immediately after their admission, will supply themselves with the following articles; viz.,

One parade-suit.....	\$37 72	*Eight pairs socks.....	\$1 84
One undress suit.....	20 95	*Four pairs drawers.....	2 24
One working-suit.....	2 46	*Six handkerchiefs.....	1 26
One overcoat.....	23 30	*Eight towels.....	2 00
One rubber coat.....	4 54	Two pairs drill gloves.....	1 16
One pair rubber leggings.....	1 08	Two pairs Lisle thread gloves.....	50
Two pairs white duck leggings.....	2 26	*One pair suspenders.....	38
One pair gymnastic slippers.....	92	One neck-tie.....	50
One parade-cap.....	4 35	Two clothes-bags.....	48
One undress-cap.....	1 71	One hair mattress.....	7 00
*Two pairs high shoes.....	11 50	One straw mattress.....	1 05
*Eight white shirts.....	11 04	One hair pillow.....	83
*Two nightshirts.....	2 10	One pair blankets.....	3 87
*Four undershirts.....	2 24	Two bedspreads.....	2 10
Twelve linen collars.....	1 50	Six sheets.....	3 66
Four pillow-cases.....	1 00	One pass-book.....	0 30
*One tooth-brush.....	25	One stencil, ink and brush.....	41
*One hair-brush.....	80	One bottle indelible ink.....	18
*One whisk.....	25	One rug.....	1 55
*One coarse comb.....	12	One wash-basin and pitcher.....	1 32
*One fine comb.....	33	One looking glass (half cost).....	45
One mug.....	10	One water-pail (half cost).....	40
*One cake soap.....	10	One slop-bucket (half cost).....	40
One soap-dish.....	10	One broom (half cost).....	14
One requisition-book.....	30		
One laundry-book.....	30	Total.....	165 34

The articles marked \*, not being required to conform to a standard pattern, may be brought by the Cadet from home, but all other articles must conform to the regulations and must, therefore, be supplied by the storekeeper.

Each Naval Cadet must, on admission, deposit with the paymaster the sum of \$20, for which he will be credited on the books of that officer, to be expended, by direction of the Superintendent, in the purchase of text-books and other authorized articles besides those enumerated in the preceding article.

All the deposits for clothing and the entrance-deposit of \$20 must be made before a candidate can be received into the Academy.

#### SUMMARY OF EXPENSES.

Deposit for clothing.....	\$165 34
Deposit for books, &c.....	20 00
Total deposit required.....	185 34

The value of clothing brought from home is to be deducted from this amount.

Each Naval Cadet, *one month after admission*, will be credited with the amount of his actual expenses in traveling from his home to the Academy.

XV. A Naval Cadet who voluntarily resigns his appointment within a year of the time of his admission to the Academy will be required to refund the amount paid him for traveling expenses.

WILLIAM E. CHANDLER,  
*Secretary of the Navy.*

# COURSE OF INSTRUCTION.

## DEPARTMENT OF SEAMANSHIP, NAVAL TACTICS, AND NAVAL CONSTRUCTION.

### FIRST TERM.

Class.	Number of recitations per week.	Number of months.	Subjects.	Text-books.
3	1	4	SEAMANSHIP: Cutting and fitting standing and running rigging; masting ship; cutting and fitting sails.	Luce's Seamanship; Questions in Seamanship; Navy Department publications; * Qualtrough's Sailors' Handy Book.*
2	1	4	Review of third class course; getting under way; anchoring and evolutions under way; trimming and bracing yards.	Luce's Seamanship; Questions in Seamanship; Port Routine.
2	1	4	NAVAL CONSTRUCTION: Wooden ship building; iron-ship building; sheathing of ships; composite ships; laying off lines of ships; docking and launching; review of third class course in seamanship; getting under way; evolutions under way; anchoring; trimming and bracing yards.	Thearle's Naval Architecture; Reed's Ship Building; * Wilson's Ship Building; Luce's Seamanship; Questions in Seamanship.
1	1	4	SEAMANSHIP: Port routine; laws of storms; review of the course of instruction in seamanship; rules of the road; meteorology of the sea; gales; emergencies and accidents incident to the sea.	Questions in Seamanship; Rules of the Road; Loomis' Meteorology; The Laws of Storms; Qualtrough's Sailors' Handy Book.*
1		4	NAVAL TACTICS† .....	Parker's Steam Fleet Tactics; United States Signal Book.

### SECOND TERM.

3	1	4	Same as first term .....	Same as first term.
2	1	4	Do.	Do.
2	2	4	Do.	Do.
1	1	4	Do.	Do.

\* Reference books.

† One examination each month in time allotted to seamanship.

### PRACTICAL EXERCISES DURING THE ACADEMIC YEAR.

*(Subject to such modification as the Superintendent may direct.)*

Exercises with spars and sails; in evolutions under way; in boats and steam launches; in naval tactics; in signals, day and night; Navy, international, and Myer's codes.



## DEPARTMENT OF ORDNANCE AND GUNNERY.

## FIRST TERM.

Class.	Number of recitations per week.	Number of months.	Subjects.	Text-books.
2	1	4	ORDNANCE: Duties of officers and men at quarters; preparation for battle; exercise with great guns; duties of boarders and riflemen; naval brigade.	United States Naval Ordnance instructions.
1	3	1	INFANTRY TACTICS: Schools of the company and battalion; instruction for skirmishers.	Upton's Infantry Tactics.
1	3	1	THEORY AND PRACTICE OF GUNNERY: Metallurgy of gun-metal; description and use of furnaces; manufacture of wrought iron, of steel, and of bronze; strength and characteristics of gun-metals; fabrication of guns and projectiles; inspection of ordnance; manufacture of explosives and fuses; pyrotechny; pointing guns; target sights.	Cooke's Naval Ordnance; Notes on Ordnance.

## SECOND TERM.

2	2	4	MECHANISM AND CONSTRUCTION OF ORDNANCE: Principles of mechanism; conversion of circular into reciprocal motion; conversion of reciprocal into circular motion; use of wheels in trains; principles of the construction of gun-carriages; working drawings of gun-carriages and machinery; mechanism of machine guns and small-arms.	Goodeve's Principles of Mechanism; Cooke's Naval Ordnance; United States Naval Ordnance Instructions; Notes on Ordnance.
1	3	4	THEORY AND PRACTICE OF GUNNERY—TORPEDOES: Motions of projectiles in vacuo and in air; initial and final velocities and methods of computing their values; experimental methods of determining velocities by means of the chronograph; effects of variation of charge; influence of windage and of the weight of the projectile; recoil of guns; penetration and shock of projectiles; defensive armor; its fabrication; practical exercises and instruction in the use of service torpedoes; the manufacture of explosives.	Sladen's Rifled Ordnance; Lectures and Notes.

## PRACTICAL EXERCISES DURING THE ACADEMIC YEAR.

(Subject to such modification as the Superintendent may direct.)

*Great guns.*—Exercises at quarters; field artillery and boat howitzers; infantry tactics; target practice; small-sword and broadsword exercises; elementary instruction in the machine shop in the use of tools; practice with great guns and mortars; instructions in working guns and turret machinery of monitors; the use of service apparatus, including machine and magazine guns, and instruments for inspecting guns and projectiles.

*Metals.*—Measurement of the specific gravity, elasticity, and strength of the various gun metals.

*Explosives.*—The inspection and proof of gunpowder; determination of samples of gunpowder; elementary instructions in handling dynamite, gun-cotton, and explosive gelatine; determination of initial velocities; handling and firing torpedoes; firing guns by electricity; manufacture of electric fuses.

The fabrication of articles of ordnance; preparing ammunition; special instruction and target practice with machine guns and small-arms.

## DEPARTMENT OF ASTRONOMY, NAVIGATION, AND SURVEYING.

## FIRST TERM.

Class.	Number of recitations per week.	Number of months.	Subjects.	Text-books.
2	2	4	THE CELESTIAL SPHERE: spherical and rectangular co-ordinates; use of instruments, especially those for determining terrestrial latitudes and longitudes; refraction; dip; parallax; the earth, sun, planets, and solar system in general; different units of time, and calendars; law of universal gravitation, precession, nutation, and aberration; the moon; eclipses and occultations; tides; nebular hypothesis; comets and meteoric bodies; fixed stars, nebulae, and motion of the solar system; solutions of the astronomical triangle; use of the Nautical Almanac. Course concluded in second term.	White's Astronomy; Chauvenet's Spherical and Practical Astronomy; Bowditch's Navigator; American Ephemeris and Nautical Almanac.
1	3	4	The theory and practice of navigation, the latter including instruction in the duties of the navigator, the construction and use of navigating instruments, the use of the tables and solution of problems; determination of meridian distances. Course concluded in second term.	Coffin's Navigation; Notes on Navigation and Meridian Distances; Chauvenet's Spherical and Practical Astronomy; Bowditch's Navigator; American Ephemeris and Nautical Almanac.

## SECOND TERM.

2	2	4	SURVEYING: The instruments used; selection and measurement of bases; determination of azimuth of base; triangulation; determination of heights; leveling; plotting a survey; hydrographical surveying, including the Coast Survey methods; tidal observations; current observations; sailing directions; the form of the earth, with special reference to the construction of charts; projection by development; Mercator's, Flamstead's, and Bonne's projections; the ordinary polyconic projection of the United States Coast Survey; running surveys; portable transit instrument and zenith telescope. Astronomy concluded.	Chauvenet's Spherical and Practical Astronomy; Howell's Marine Surveying; Projection Tables, United States Navy; Bowditch's Navigator.
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*Department of Astronomy, Navigation, and Surveying—Continued.*

SECOND TERM.

Class.	Number of recitations per week.	Number of months.	Subjects.	Text-books.
1	4	4	THEORY OF DEVIATION OF THE COMPASS, including the derivation and transposition of the fundamental equations, the nature and course of the several parts of the deviation, determination of the vertical and horizontal forces of the earth and ship, and of the values of the approximate and exact coefficients, the causes and amount of the heeling error, the changes which take place upon a change of geographical position; the graphic representations of the amount and direction of the forces which act on the needle, and the mechanical correction of the deviation and heeling errors. Navigation concluded.	Howell's Theory of the Deviations of the Compass. Evans' Elementary Manual for the Deviations of the Compass in Iron Ships.

PRACTICAL EXERCISES DURING THE ACADEMIC YEAR.

Survey of a portion of the Severn River and its projection as a chart. Practical instruction by experiments with an iron vessel attached to the Academy. Practical navigation.

DEPARTMENT OF STEAM-ENGINEERING.

FIRST TERM.

Class.	Number of recitations per week.	Number of months.	Subjects.	Text-books.
2	2	4	MARINE ENGINES AND BOILERS: Explanation of all the parts of the engine: types of engines: steam-valves and other valves: generation of steam: distribution and expansion of steam: screw propellers and side-wheels: the indicator and its diagrams: power of an engine and computations relating thereto: hydrometers: saturation: scale and its prevention: casualties: boilers: materials: combustion: transfer of heat: testing steam-engines.	King's Lessons and Notes on the Steam-Engine; Northcott's Steam-Engine.
1	2	4	MARINE ENGINES AND BOILERS: Continuation of the course for the second class year, with the addition of a course in the principles of mechanism.	

SECOND TERM.

2	2	4	} Same as first term . . . . .	Same as first term.
1	2	4		

PRACTICAL EXERCISES DURING THE ACADEMIC YEAR.

Exercises in the management of engines and boilers under steam, and the practical applications of mechanism.

## DEPARTMENT OF MECHANICS AND APPLIED MATHEMATICS.

## FIRST TERM.

Class.	Number of recitations per week.	Number of months.	Subjects.	Text-books.
2	5	2½	INTEGRAL CALCULUS: The methods of integration; definite integrals; quadrature of surfaces; cubiture of volumes; rectification of curves; centres of gravity; moments of inertia; planimeters; rules for the approximate determination of areas and volumes.	Johnson's Integral Calculus.
2	5	¾	METHOD OF LEAST SQUARES: The theory of least squares and probable errors; fundamental principles of the theory; practical methods and formulas; independent observations; conditioned observations.	Merriman's Method of Least Squares.
2	5	¾	MECHANICS: Elementary statics and kinetics.....	Bartlett's Mechanics.
1	2	2¾	STRENGTH OF MATERIALS: Elasticity; stress and strain; theory of structures; strength and deflexion of beams; beams of uniform resistance.	Wood's Strength and Resistance of Materials.
1	2	1½	NAVAL ARCHITECTURE: The computation of areas and of volumes; moments of inertia; centres of gravity; statical and dynamical stability; tonnage; waves and rolling; the resistance of ships; the strength of ships; the propulsion and steering of ships.	Thearle's Theoretical Naval Architecture; Wilson's Ship Building.*

## SECOND TERM.

2	4	2	MECHANICS: Kinematics; dynamics; kinetics; hydro-mechanics; the motion of projectiles; friction and other resistances; the application of mechanical principles to simple machines and to instruments.	Bartlett's Mechanics; Walton's Problems in Elementary Mechanics.*
1	2	4	NAVAL ARCHITECTURE: Continuation of the course assigned for the first term.	Thearle's Theoretical Naval Architecture; Wilson's Ship Building.*

\* Reference books.

## DEPARTMENT OF PHYSICS AND CHEMISTRY.

## FIRST TERM.

Class.	Number of recitations per week.	Number of months.	Subjects.	Text-books.
3	1	4	CHEMISTRY: Lectures; aim and scope of chemistry; the atmosphere; oxygen, nitrogen, water, and hydrogen; nitric and chlorhydric acids; acids, bases, and salts; chlorine group; sulphur and phosphorus, and their compounds.	Eliot and Storer's Elementary Manual of Chemistry;* Lecture notes.*

*Department of Physics and Chemistry—Continued.*

## FIRST TERM.

Class.	Number of recitations per week.	Number of months.	Subjects.	Text-books.
2	3	4	CHEMISTRY: Review of the third class course; laws of Avogadro, Charles, and Mariotte; formulas; basicity; notation and nomenclature; arsenic, antimony, and bismuth; combustion; carbon and its compounds; boron and silicon; the alkali group; the calcium group; magnesium and zinc; the sesquioxide group; copper, mercury, and tin; gold and platinum; atomic weights. Lectures.	Same as first term.
1	3	4	ELECTRICITY: Frictional electricity; magnetism; current electricity; electrostatics; electromagnetics; measurements of currents; heat, light, and work from electric currents; thermo-electricity; induction currents; electro-chemistry; telegraphs and telephones; electrical machines; potential; electrometers; theory of absolute measurement; specific inductive capacity; measurement of resistances.	Thompson's <i>Elementary Treatise on Electricity</i> ; Gordon's <i>Electricity</i> , vol. 1; Day's <i>Problems</i> .†

## SECOND TERM.

3	*4	4	CHEMISTRY: Practical work in the chemical laboratory. ELEMENTARY PHYSICS: Matter, force, and motion; gravitation and molecular attraction; hydrostatics; pneumatics; acoustics; light. Lectures.	Eliot and Storer's <i>Elementary Manual of Chemistry</i> . Ganot's <i>Physics</i> ;
2	2	4	HEAT: Temperature, and its measurement by thermometers; dilation of solids, liquids, and gases; application of the laws of dilation; changes of state, liquefaction, and solidification; production of vapor, and its condensation; effect of heat upon other properties of matter; radiant heat and its reflection and radiation; theory of exchanges; conduction and convection; specific and latent heat; relation between heat and mechanical effect: thermodynamics. Lectures.	Stewart's <i>Elementary Treatise on Heat</i> .
1	2	4	PHYSICAL MEASUREMENTS: Knowledge and experience with batteries: practical work with electrical and dynamo machines; measurements of resistances; galvanometers; determination of dip and intensity; use of the magnetometer, Fox dip circle, absolute electrometer, dynamometer, and secondary batteries; testing oils and paints; lectures on metallurgy of gun metals, and on theory and action of explosives; practical exercises in the laboratory illustrating the formation and action of explosives.	Kohlrausch's <i>Physical Measurements</i> ;† Gordon's <i>Electricity</i> , vol. 1.†

\* Saturday period.

† Reference books.



## DEPARTMENT OF MATHEMATICS.

## FIRST TERM.

Class.	Number of recitations per week.	Number of months.	Subjects.	Text-books.
4	3	4	ALGEBRA: Fundamental operations; reduction and conversion of fractional and surd quantities; reduction and solution of equations of the first and second degrees; inequalities; involution and evolution; development of algebraic functions by means of indeterminate coefficients and the binomial theorem; permutations and combinations; summation of series; continued fractions; logarithms; exponential equations; theory of equations, including the solution of numerical equations.	Ray's Higher Algebra; Todhunter's Algebra; * Bowditch's Useful Tables.*
4	3	4	GEOMETRY: Geometry of the straight line, the circle, and the plane; theory of proportion; properties of similar figures; spherical geometry; the cone and the cylinder; mensuration of rectilinear figures, and of the sphere, cone, and cylinder; application of algebra to determinate geometry.	Chauvenet's Geometry.
3	1	4	DESCRIPTIVE GEOMETRY: Orthographic projections; representation of points, lines, and planes; problems relating to the right line and plane; representations of surfaces of the second order, warped surfaces, and surfaces of revolution; development of single-curved surfaces; intersection of surfaces; tangent lines and planes; projections of the sphere; axometric projections; shades and shadows; linear perspective.	Church's Descriptive Geometry.
3	3	4	TRIGONOMETRY: Measures of arcs and angles; trigonometric functions; analytical investigation of trigonometric formulas, with their application to all the cases of plane and spherical triangles; construction and use of trigonometric tables; inverse trigonometric functions; De Moivre's theorem; solution of trigonometric equations; practical applications of trigonometry in the solution of plane and spherical triangles, the astronomical triangle, and the measurement of heights and distances.	Chauvenet's Trigonometry; Todhunter's Trigonometry; Bowditch's Useful Tables.*
3	2	4	ANALYTICAL GEOMETRY: Equations of the straight line, and of the conic sections; transformation of co-ordinates; properties of the conic sections; equations to tangents and normals; determination of loci; discussion of the general equation of the second degree; equations of the plane, of lines in space, and of surfaces of the second order; principal properties of surfaces of the second order; discussion of the general equation of the second degree in three variables.	Todhunter's Conic Sections and Aldis' Solid Geometry.

\* Reference books.



*Department of mathematics—Continued.*

SECOND TERM.

Class.	Number of recitations per week.	Number of months.	Subjects.	Text-books.
4	3	4	ALGEBRA: Course for first term continued.	Same as first term.
4	3	2	GEOMETRY: Course for first term continued.	Chauvenet's Geometry.
4	3	1	DESCRIPTIVE GEOMETRY: Elementary descriptive geometry.	Church's Descriptive Geometry.
4	3	1	TRIGONOMETRY: Elementary trigonometry . . . . .	Wheeler's Trigonometry.
3	2	4	ANALYTICAL GEOMETRY: Course for first term continued.	Same as first term.
3	1	4	DESCRIPTIVE GEOMETRY: Course for first term continued.	Church's Descriptive Geometry.
3	3	4	DIFFERENTIAL CALCULUS: Principles of the differential calculus; differentiation of functions; series, including Taylor's theorem, application of the calculus to the determination of maxima and minima, evaluation of indeterminate forms, curve tracing, radius of curvature, and envelopes.	Rice and Johnson's Differential Calculus.

DEPARTMENT OF ENGLISH STUDIES, HISTORY, AND LAW.

FIRST TERM.

4	3	3 $\frac{1}{4}$	HISTORY: Outlines of history, especially the history of Greece and Rome, and of the states of Western Europe down to 1880: historical geography.	Freeman's General Sketch of History; Labberton's Historical Atlas.*
4	5	2		
4	2	3 $\frac{1}{4}$	ENGLISH: The structure and historical development of the English language. Punctuation and capitals. Exercises in the composition of letters and telegrams.	Lounsbury's History of the English Language; Hill's Punctuation; Webster's Dictionary.*
3	2	2 $\frac{1}{2}$	HISTORY: Lectures on naval history: the three periods in naval history; naval engagements during the wars of Napoleon; naval history of the United States Contemporary history.	The School Herald; Martin's Statesman's Year Book.
3	1	1 $\frac{1}{2}$		
3	2	1 $\frac{1}{2}$	ENGLISH: Critical readings and analysis. Principles of composition. Exercises in the composition of official dispatches.	Shakespeare's Julius Caesar and Macbeth; Abbott's How to Write Clearly.
3	1	2 $\frac{1}{2}$		
2	1	4	INTERNATIONAL LAW: The rights and duties of states: the powers and duties of diplomatic envoys, consuls and naval commanders; nationality, as to persons, and as to vessels; jurisdiction over vessels at sea, and in territorial waters; the relations of ships of war, at sea, and in foreign ports; fugitives and deserters; the laws of war; hostile measures falling short of war; privateers; the rights and duties of neutrals; enemy's property on land and at sea; the right of search; prizes; blockade; contraband; licenses to trade; recapture; treaty of peace. Lectures.	Woolsey's International Law.
(i)		4	ENGLISH: Themes.	

*Department of English studies, history, and law—Continued.*

## SECOND TERM.

Class.	Number of recitations per week.	Number of months.	Subjects.	Text-books.
4	3	2	HISTORY: Progress of colonial development in America, and the history of the United States.	Eliot's History of the United States; Mitchell's Atlas.*
4	2	4	ENGLISH: Rhetoric and composition; choice and use of words; kinds of composition; narration and description; argumentative composition. Exercises in the composition of letters and telegrams.	Hill's Rhetoric.
4	3	2	LAW: The Constitution of the United States.	Andrews' Manual of the Constitution.
3	1	4	HISTORY: Contemporary history, including the comparative study of institutions.	Same as first term.
3	1	4	ENGLISH: Critical reading and analysis.	Burke's Speeches on Taxation and Conciliation.
2	1	4	INTERNATIONAL LAW: Same as first term.	Same as first term.
1	1	4	ENGLISH: Same as first term.	

\* Reference books.

(t) One period a month.

## DEPARTMENT OF MODERN LANGUAGES.

## FIRST TERM.

4	3	4	FRENCH.	The Robertsonian System of Teaching French; Gasc's Dictionary;* Keetel's Grammar.*
3	2	4	FRENCH: One period a week to be devoted to reading and translating "Le Conserit," the other to written translations from English into French, and to conversation upon appointed topics.	Le Conserit de 1813; Keetel's Grammar;* Gasc's Dictionary.*
1	2	4	SPANISH: Grammar, and exercises in reading, writing, and in conversation.	Robertson's Spanish Course.

## SECOND TERM.

4	4	1½	FRENCH.	Robertsonian System of Teaching French.
4	3	2½	Do.	La Fontaine's Fables; Keetel's Grammar;* Gasc's Dictionary.*
3	1	4	FRENCH: Written translations from English into French; sea terms and conversations thereon.	Pornain's Sea Terms.
1	1	4	SPANISH: Same as first term.	Same as first term.

\* Reference books.

## DEPARTMENT OF DRAWING.

## FIRST TERM.

Class.	Number of recitations per week.	Number of months.	Subjects.	Text-books.
4	*2	4	FREEHAND DRAWING: Freehand drawings of elementary forms; of solid object models.	
3	3	4	MECHANICAL DRAWING.	

## SECOND TERM.

4	1	4	MECHANICAL DRAWING.	MacCord's Mechanical Drawing.
3	2	4	MECHANICAL DRAWING.	

## ASSIGNMENT OF TIME.

Departments.	Fourth class.		Third class.		Second class.		First class.		Total.
	1st term.	2d term.	1st term.	2d term.	1st term.	2d term.	1st term.	2d term.	
Astronomy . . . . .					2	2	3	4	11
Drawing . . . . .	*2	1	3	2					8
English . . . . .	5	5	3	2	1	1	(†)	(†)	17
Gunnery . . . . .					1	2	3	3	9
Mathematics . . . . .	6	6	6	6					24
Mechanics . . . . .					5	4	2	2	13
Modern Languages . . . . .	*3	*4	2	1			*2	*2	14
Physics and Chemistry . . . . .			*1	*4	3	2	3	2	15
Seamanship . . . . .			1	1	2	3	1	1	9
Steam . . . . .					*2	*2	2	2	8

\* Saturday period.

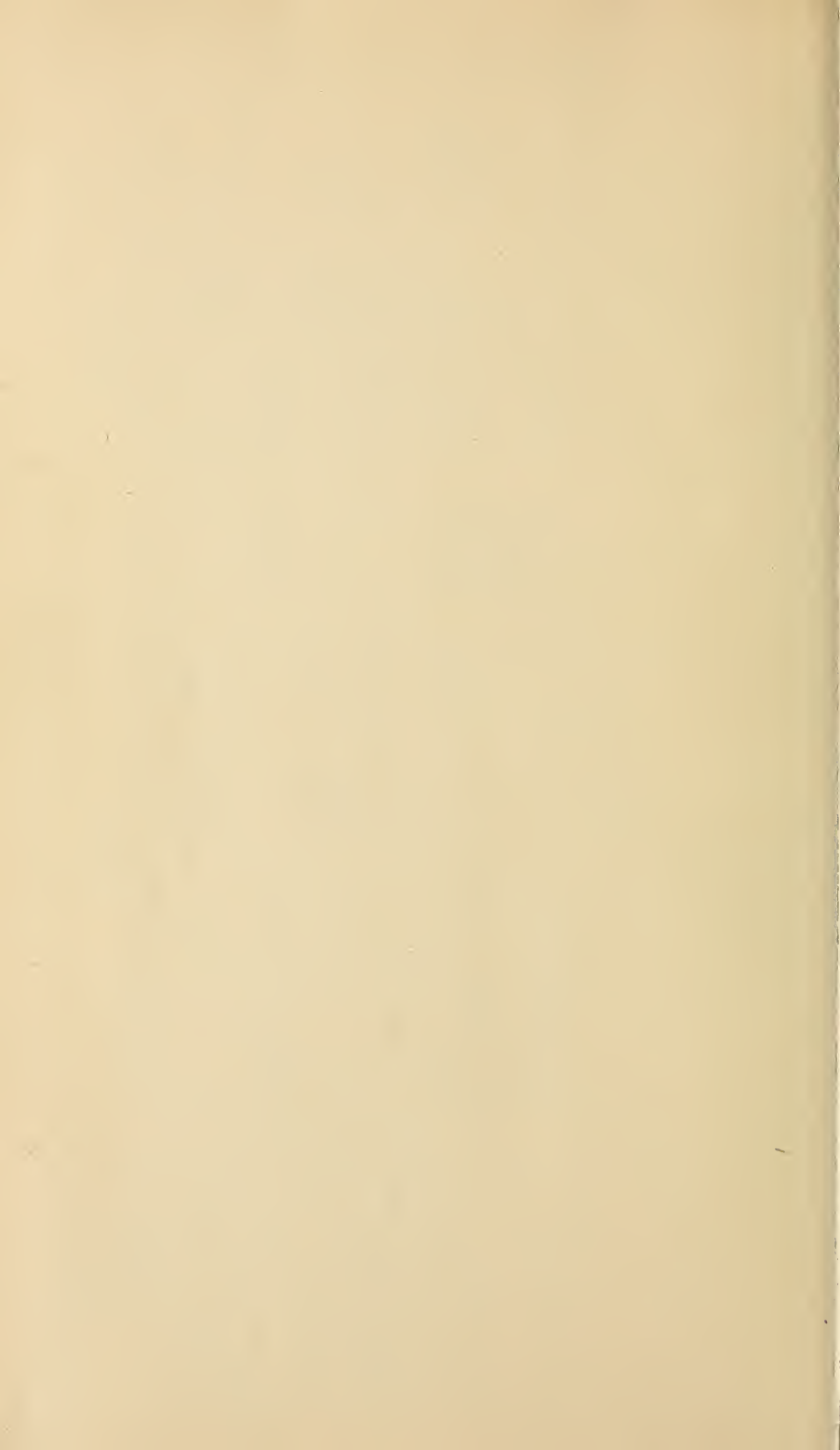
† One period a month.

## PROGRAMME OF RECITATIONS.

Department.	First term.				Second term.			
	Fourth class.	Third class.	Second class.	First class.	Fourth class.	Third class.	Second class.	First class.
Seamanship.....		F (2).....	W (3) Th (2) ..	T (3).....		F (3).....	W Th (2) Th (2)	T (3)
Ordnance and gunnery .....			Th (3).....	M (2) T Th (1)			T (3) F (1) ...	T (2) W Th (1)
Mathematics .....	M T W Th (2) F (2) M (3)	M T W Th (1) F (1) T (3)			M T W Th (2) F (2) M (3)	M T W Th (1) F (1) T (3)		
Steam-engineering.....			M (3) S (1) ..	W F (3).....			M (3) S (1) ...	W F (2)
Astronomy, navigation, and surveying .....			T F (2).....	M W F (1) ..			T F (2).....	M T F (1) W (3)
Physics and chemistry .....		S (1).....	M W (2) F (3) ..	T Th F (2) ..		T Th F (2) S (1)	M W (2) ..	M F (3)
Mechanics and applied mathematics.....			M T W Th (1) F (1)	W (2) Th (3) ..			M T W Th (1)	M Th (2)
English studies, history, and law .....	M T W Th (1) F (1)	M W Th (2)...	T (3).....	One period a month.	M T W Th (1) F (1)	M W (2) ..	F (3).....	One period a month.
Modern languages.....	Div. 1 T W (3).. Div. 2 Th (3) S (1) F (3)	T (2) Th (3)...		M (3) S (1) ..	Div. 1 W (3).. Div. 2 Th (3) T F (3) S (1)	Th (3).....		Th (3) S (1)
Drawing .....	Div. 1 Th (3) S (1) Div. 2 T W (3)	M W F (3).....			Div. 1 Th (3).. Div. 2 W (3)	M W (3) ..		

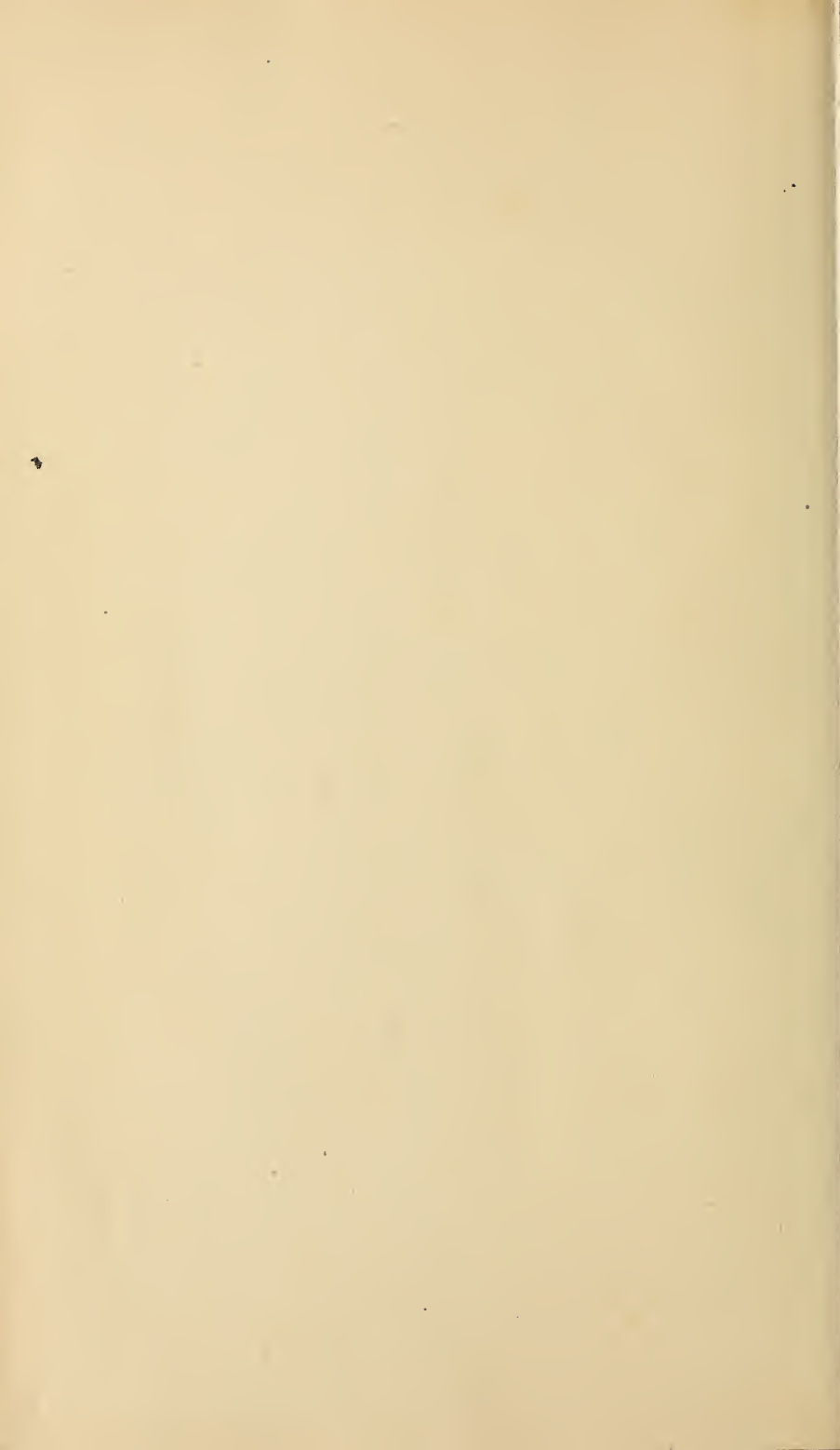
END OF PART I.











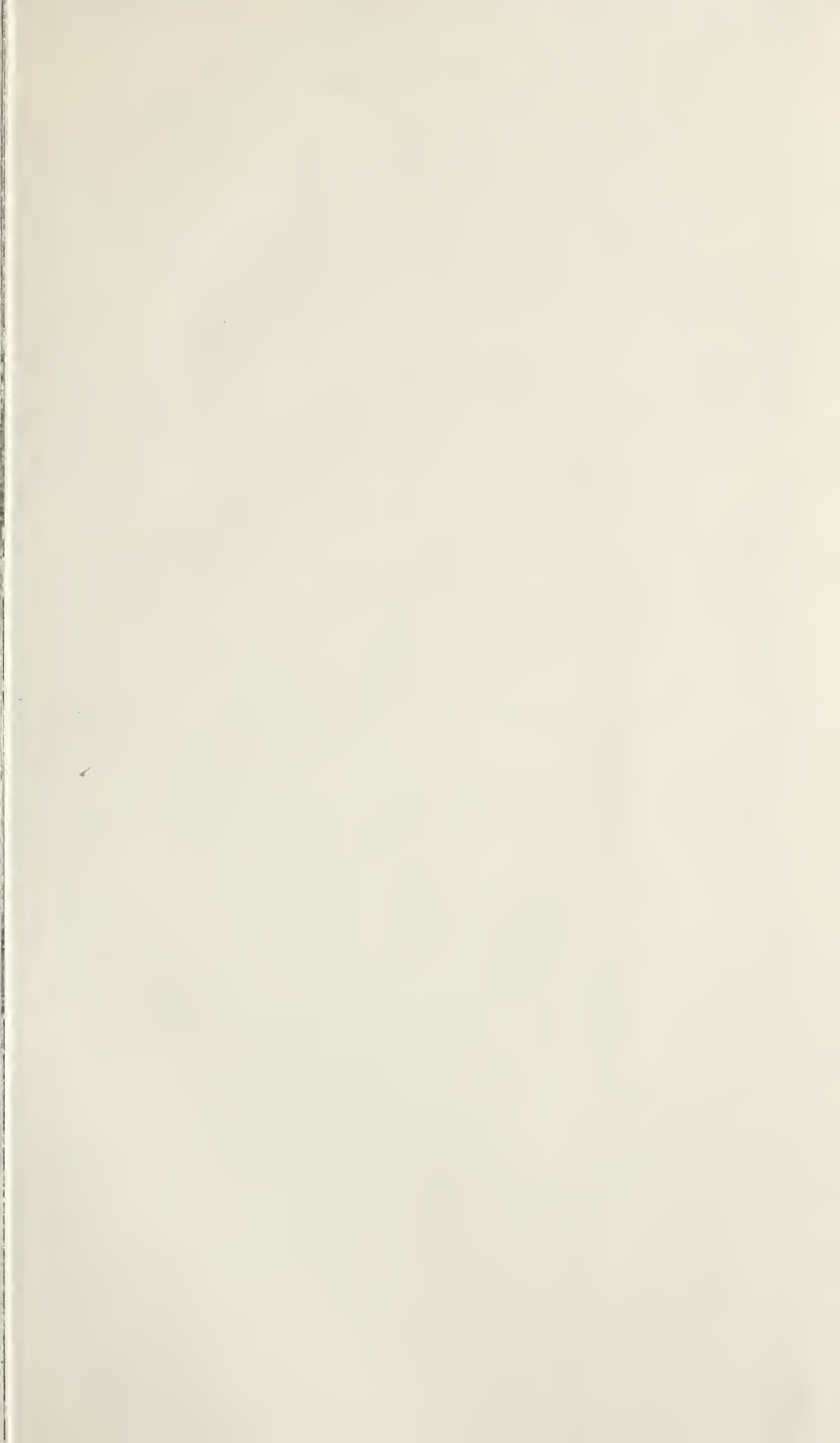


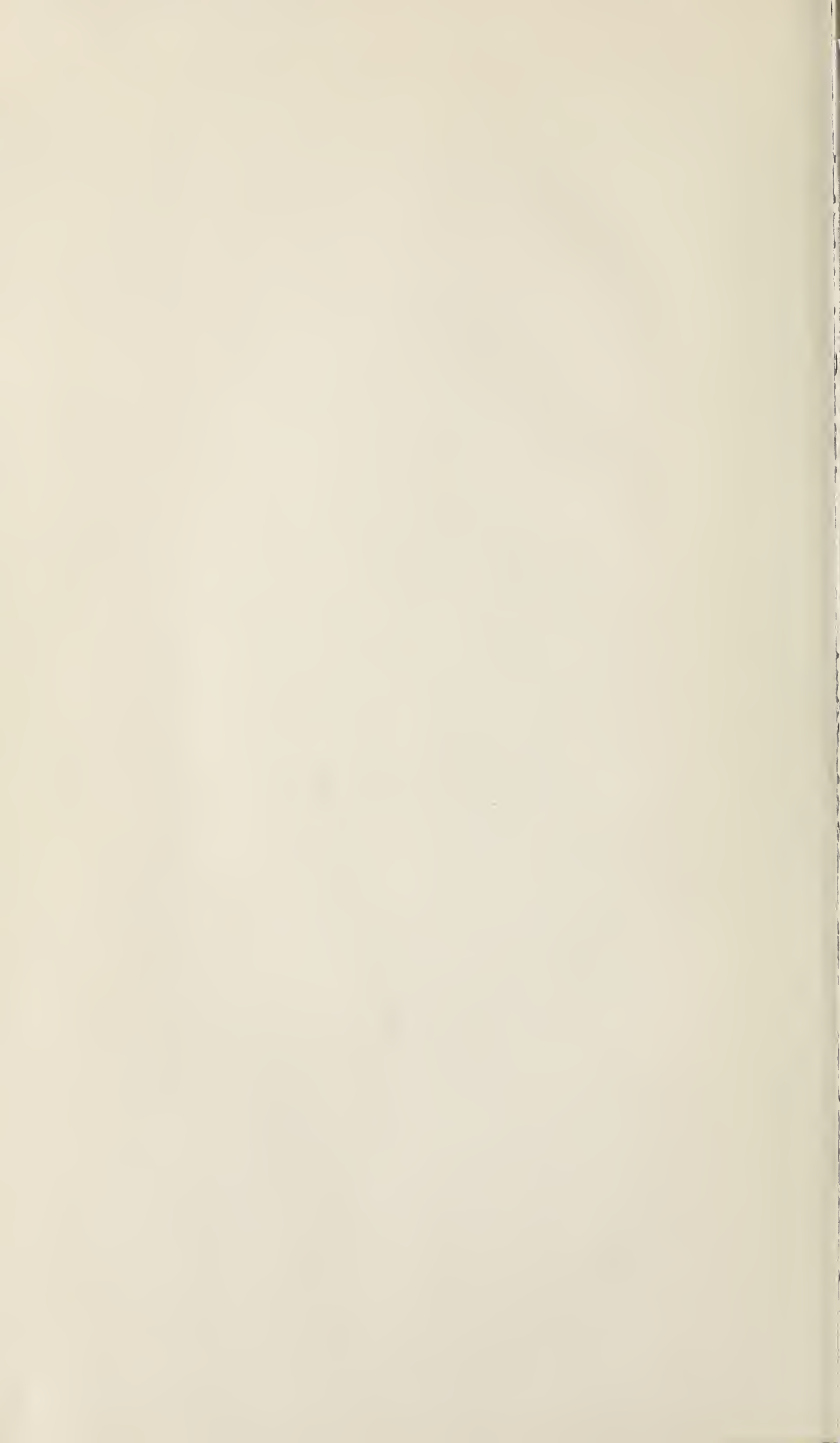












**Annual register**

**1882-1883**

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